ADVERTISERS and correspondents will please note that everything for insertion in our next issue (April 15th) should reach us earlier than usual. The occurrence of Easter Monday (the Bank holiday) on April 14th will compel us to close up our journal on Saturday morning, April 12th.

POLITICAL.

THE overthrow of Mr. Gladstone's Government on a question of quite second-rate public interest is an event to be regretted. If the Irish University difficulty be, as Mr. Gladstone says it is, the last remaining Irish grievance, it was simply a piece of wanton cruelty to attempt to remove it. It was equivalent to snatching from a dog his only bone, or robbing a tigress of her only cub. We have no lamentations, therefore, to spare for the fate of the Bill. The one great marvel about it was that any dozen intelligent men, in Privy Council assembled, could agree on such a patched-up measure, and undertake the sponsorship of such a miserable abortion. But we regret the fall of the Ministry for several reasons. As a whole, it was composed of men of unusual ability, and, further than that, it possessed a strength which made the work of Government run easily, and which we may not have again for years. Then, too, we had looked forward to this session with special hope. One item of its programme was Sir John Coleridge's Jury Bill. We are aware how universally this was condemned—not even the *Daily Telegraph* could find a decently kind word to say of it; but for all that, there is a strong feeling that our jury system needs some revisal, so that it is extremely probable some fragments of the Bill would have got through the Legislature, and it would have doubtless met the wishes of chemists and druggists in its most mutilated state. For the moment this hope is crushed. The contest, too, with the Civil Service to which we had looked forward is inevitably postponed; but in this respect the change of ministry is in our favour. No man leaves office more unmourned than Mr. Lowe, and a new Chancellor of the Exchequer will be a veritable gain, whoever he may be. In anticipation of a general election, which if it does not come now will not be long delayed, the trading classes will do well to organize their strength so as to make it felt when the proper time comes more thoroughly than it has ever been felt before.

WINSLOW'S SYRUP.

A YEAR ago an American medical journal published some rather sensational statements about the quantity of morphia contained in Winslow's syrup, and the enormous consumption of the nostrum in the United States. The article in question, stated on the authority of "a skilful chemist," who had analyzed the syrup, that it contained not less than one grain of morphia to the ounce. Our quotation of this assertion drew from the London agents of "Mrs. Winslow" a note, in which they assured us and the trade generally that the statements referred to were "absolutely false." But we were still left uncertain as to how far they were "absolutely false," because an exaggeration of one, ten, or ninety per cent. would have equally justified this phrase. We thought it a matter of some importance both to chemists and their customers that the exact truth should be known, and we therefore commenced an investigation into this syrup.

After experimenting on a large number of tests for morphia and the allied alkaloids, we took two as being the best for our purpose—one was iodic acid, and the other potassium iodohydrargyrate. Having determined the limits within which these were trustworthy tests for morphia in syrup coloured with caramel to match the colour of Winslow's syrup, we found that by means of the first test—iodic acid—we could detect one part morphia in 2,320 parts of syrup. The other reagent gave distinct reactions with one part morphia in 1,550 parts of syrup; but by means of dialysis we found it possible to make this test at least twice as delicate. We thought it proper also to determine the limits of trustworthiness of the iron test for meconic acid (the constituent of opium most readily detected), and found that one part of extract opii was quite easily detected in 2,325 parts of simple syrup. This represents the slightest trace of meconic acid. These tests were carefully applied to Winslow's syrup, some of them with every possible variety of conditions; but the results were invariably and decidedly negative.

Our experiments, therefore, have led us to believe that this syrup contains no morphia, and that it depends for whatever "soothing" properties it may possess on the oil of anise suspended in it. Neligan describes this oil as "a carminative employed in flatulent colic, and in the diarrhœa of infants and children." The administration of this syrup must sometimes offer a special opportunity for thoroughly testing the therapeutical properties of the oil, for we have observed that bottles which have been in an upright position for some time have nearly all the contained oil (some eight or ten drops) floating on the surface. Four drops would be a fair dose for an adult.

We decline to say that Winslow's syrup contains no morphia or opiate at all. The proprietors may, perhaps, mix a homœopathic dose with the idea that a trace of it may do some good and can do no harm. But we can assert that, if the syrup contained one part of morphia in 3,000 (·3 grains to the bottle), we should have had in one of our experiments a very decided precipitate, instead of which there was not the slightest trace of cloudiness.

PHARMACEUTICAL STATISTICS.

IN looking over the Registrar's Report of the Major, Minor, and Preliminary Examinations, which took place in 1872, we are rather struck with the nearly equal percentage of rejections in the three examinations. Thus, in the Major it was forty-three, in the Minor forty-four, and in the Preliminary thirty-eight per cent. Mr. Carlyle once remarked "the population of the world is so many millions—mostly fools;" if he had seen the foregoing statistics, he might have modified his assertion—at least, to *half*.

The names on the Register number this year, 12,707, of which total 2,368 are pharmaceutical chemists. There have

been 430 names added by examinations, etc.; while 915 have been removed, 233 by death and the rest by erasure, showing a balance of 485 names fewer than last year. It will be remembered, that in order to clear off from the Register superfluous names, the means provided by law were taken last year, two registered letters having been sent to persons whose existence was doubtful. No fewer than 649 of these have failed to prove themselves, and these have consequently been struck out. This makes the list of names much more accurate than before.

OUR NAVAL INTELLIGENCE.

One might have thought that Dr. Collis Browne had done enough for fame by linking his name for ever with chlorodyne; but he himself is clearly not of that opinion. He has during the past week, very literally launched out into a new enterprise. His latest idea is the "Ralifish," which in our ignorance we at first guessed to be a new sauce, but which it seems is really a new schooner. For the benefit of those of our readers who are ignorant of Hindoostanee, we may mention that this particularly ugly name being interpreted means "black fish," and distinguishes a certain living creature which exists in Eastern waters. Dr. Browne's schooner is modelled after this personage, and the inventor believes that he has hit upon a shape of some peculiar advantages. The *Medical Press* says that the craft has attracted much notice, especially at the Admiralty. The gentlemen in that department have of late manifested a fondness for certain acrobatic vessels, which might with some correctness be termed *rolly fishes*. If Dr. Collis Browne can teach Britannia a fresh wrinkle in the art of ruling the waves, the great medicine man will have added a fresh claim to our gratitude.

OUTSIDE THE COUNTER, PLEASE.

A limited liability company has been registered lately under the title of the Universal Drug Supply Company. Its object is stated to be to deal in drugs, and carry on the usual business of apothecaries, pharmaceutists, chemists, and druggists. The capital is £50,000 in shares of £5 each, the first subscribers being:—

	Shares
*Major-General Robert George Hamilton, Fairlight, Selhurst, Surrey	40
*Captain W. F. Richards, Army and Navy Club, Pall-mall	40
*Hon. M. F. Deane, Junior United Service Club ...	40
*Captain A. O. Richards, jun., Army and Navy Club, Pall-mall	40
S. E. Collis, 66, Westbourne-terrace, solicitor	40
*John Pym Pennefather, M.D., 77, Lancaster-place, Portman-square	40
Nehemiah Learoyd, Camden-park, Tunbridge Wells, solicitor	20

Directors to be not less than five, with power to increase to nine. Qualification, forty fully paid shares. First are those marked with an asterisk. Mr. Pennefather is appointed managing director for two years, at a remuneration (in addition to travelling and other incidental expenses) of 2½ per cent. of gross returns.

It may seem unkind to interfere with the diminutive amusement contemplated by these gallant and learned gentlemen, but we must hint that they have surely embarked on this enterprise in utter ignorance of the Pharmacy Act of 1868. In thus registering themselves they have deliberately expressed their intention to break the laws of their Sovereign Lady Queen Victoria, and, indeed, have already offended, and are already liable to a penalty of £5 each, because, from the Major-General down to Nehemiah, as not one of them can show his name on the Register of chemists and druggists, and the Act we have referred to expressly declares it to be unlawful for any person to *assume* the title of "chemist and druggist," chemist, or druggist, etc., unless he be registered under this Act. It is not our business to teach law either to the Universal Drug Supply Association, or to the Pharmaceutical Society of Great Britain. But we are quite clear in our opinion that if the officers of the latter body will take action and press for penalties, they can at one and the same time secure £35 for themselves, provide a little rational recreation for the trade generally, teach a useful lesson to the Major-General and his associates, and vindicate the majesty of the law.

It will be a dull day for analysts and newspaper writers when the last trick of trade has been exposed. The present generation of these gentlemen need by no means alarm itself, however. There is a fund of ingenuity in those who cater for our daily wants, which no number of Adulteration Acts is likely to repress. Dr. Tidy, the Acting Medical Officer of Health for the City, has just been rewarded with a "lucky find" while digging into the mysteries of "family jam." According to his revelations this delectable compound is based on rotten figs, mingled with some unknown poison, commercially known as "Turkish seeds," the latter being added so as to help the imagination to believe in raspberry jam, and finally the whole is welded into homogeneity by the aid of common glue. We have scarcely finished revelling in Dr. Tidy's banquet, than we are called to another by that erratic gentleman who does the sensation business, who plunges wildly into coal mines, refuges, boozing kens, casual wards and "sly" shops, on behalf of the "largest circulation in the world," and who has recently been guilty of an act of unparalleled bravery and heroism—he has penetrated the machine-room of a Cowcross sausage shop, and has, *mirabile dictu*, returned alive to tell the tale. And what a tale! Shudder ye lovers of the soft, the savoury, the succulent sausage. Ye "*grands amateurs des saucissons*," conjure up visions of dead horses, dropped dead 'uns, red ochre, and filthy offal; imagine a flabby mixture of dead cow and hospital bread crumbs,—

> "Then if you can,
> Feed on it, eat of it, horrible man."

The sausage-loving public may not perhaps be so grateful to "our special" as they ought to be. Where ignorance is bliss, etc.

GOOD NEWS FOR CRIPPLES.

It appears that we are to be inundated with co-operation in London. There are, at the present moment, at least "six Richmonds in the field." In addition to the notorious Civil Service Associations, there are "The Civil Service and General Store Company," "The United Service Association," "The Crown Co-operative Stores," and "The Co-operative Supply Association." In Liverpool that "gigantic failure," known as Compton House, has again thrown open its doors, under the name of the "Liverpool Civil Service and Public Supply [Association," which professes to sell everything "from a needle to an anchor." And as if the tradesmen of Dublin had not enough already to complain of (what with

slack trade and heavy taxation), they are still further to be punished for their sins with one of these modern developments.

The latest move in this direction is something charmingly ridiculous. It is seriously proposed, and the prospectus has actually been issued, of one of these associations, to be called the Provident Surgical Appliance Association. We are informed that its object is to supply the public with surgical appliances at a low price and on the weekly payment system; it is to be supported by its customers and its subscribers; the names of the committee and secretary are given as a guarantee of good faith and integrity; and it is suggested that we are all liable to accident and loss of limb (especially the working classes, from the nature of their employment); therefore, artificial eyes, noses, legs and arms, trusses, elastic stockings, bandages, and spinal instruments are to be the luxuries supplied by this association on the most advantageous terms.

A member of our staff, on reading the prospectus, suggests that the poet of the *British Workman*, who sings so sweetly and feelingly on the advantages of savings banks, coal clubs, and burial clubs, should come forward as poet laureate to the establishment and give us an ode *àpropos* of saving up for an artificial limb against it is wanted—something in the following style would convey the wished-for moral:—

Dear horny-handed sons of toil,
Whose hard-earned money goes
To swell the vile dram-dealer's wealth—
You yet may want a nose.

Put by each week a little sum
Against the by-and-bye,
When Fate shall make you need, alas!
An artificial eye.

Or some day you may hurt yourself
By falling off a 'bus;
How nice 'twould be, then, with your coin
To buy a Moc-main truss.

Oh! think the cash by thrift you save
From beer-retailers' clutches,
Would buy you, when your leg's cut off,
A handsome pair of crutches.

A new pocket spectroscope, for which many advantages are claimed, is stated by the *Popular Science Review* to have been invented by M. Hoffmann. It seems to be a very convenient form of spectroscope that can be carried in the waistcoat pocket, and is yet capable of producing really wonderful effects, considering its diminutive size, producing a large and brilliant spectrum, the violet rays of which extend far beyond line G. It has a lens of rock crystal, with perfectly flat parallel faces at each end to keep out all particles of dust, &c. The organ of dispersion and analysis is a compound prismoid, formed of three alternating prisms, one of the most powerful dispersive flint glass that can be obtained, between two reversed prisms of crown, the angles being specially and skilfully arranged. The combination is completed by an ordinary compound double lens, of suitable *focal length*.

Fire-damp Alarm.—A new German apparatus for detecting the presence of fire-damp in mines consists of a bell actuated by clockwork, the striking motion being checked by an unevenly balanced arm, the lighter end of which is held by a thread saturated with saltpetre. The apparatus is placed in a wire-gauze cage. The fire-damp penetrates with the air into this cage, and quickly ignites from contact with the flame of a lamp burning within, and, as a necessary consequence, burns the thread, setting free the balanced arm, checking the bell, which then rings the alarm.—*Boston Journal of Chemistry*.

Substitute for Quinine.—The green leaves of the laurel (*Laurus nobilis*) have been found by M. Doray, an apothecary in Saint Lô, France, to be an excellent febrifuge. Experiments have been made and communicated to the Academy of Sciences, and the Academy of Medicine, which go to prove the great efficacy of this new agent in cases where quinine has hitherto alone been of service.

FRANCE.

IN THE LAW COURTS.

Paris, March 1st, 1873.

There has lately been some activity in the French Law Courts with regard to pharmaceutical matters. A reference to one or two of the cases will be of interest to English readers. Everybody who knows anything of French pharmacy is well acquainted with the great house of Frère—Maison Frère it is called—the business connected with which is now the property of M. Torchon. This firm is a giant among the specialists of France, and owns some half dozen of the most successful medicines on sale in this country. Clertan's Pearls, Belloc's Charcoal, Guyot's Tar (Goudron Guyot) and other popular medicines are all run in these colours, and it is the last-mentioned that has lately brought his rider to momentary grief. A M. Guillot, of Toulon, is the proprietor of a "Goudron," and last August he and M. Torchon had a long trial at Bordeaux, each affirming that the other was counterfeiting his labels. The pronunciation of the names is almost exactly similar, and this fact looked awkward for one of them. Ultimately the magistrates decided in favour of M. Guillot, and condemned M. Torchon to pay 6,000 francs to his rival, all the expenses, and also the charge for insertion of portions of the judgment in six journals. M. Torchon appealed, and the statement of his case is said to have filled 192 pages; but the higher court confirmed the former judgment in every particular, except with regard to the publication of the judgment in the six journals.

Another case, of not such a personal character, is well worth reporting. It has just been settled at Nantes, and has more than a local interest. So long ago as 1688, a glorious year in British annals, the pharmaciens of Nantes, calmly took possession of a certain piece of waste ground in their locality, and made a botanical garden of it. Dynasties have rolled away, kingdoms have crumbled to the ground, bloody revolutions have again and again confused all rights of property, but still the pharmaciens of Nantes continued in the peaceful enjoyment of their garden. The nominal proprietors were the Société des Pharmaciens de la Loire-Inférieure and they might well regard their tenure as secure. But in these latter days, a mayor has arisen who knew not Joseph, but who must be credited with a certain share of local patriotism. This gentleman demanded the gardens from the Society for the town, a requisition which the pharmaciens resisted. The civil tribunal was appealed to, and having carefully examined the whole history from end to end, gave judgment for the mayor. I have not heard that there is to be any attempt on the part of the pharmaciens to obtain a revocation of this edict of Nantes.

Yet another case more interesting than either. Madame Dieudonné, not being a pharmacien, sold cod-liver oil in the Rue des Lombards, Paris. On the ground that this was a "medicament," the sale of which was legally confined to pharmaciens, Madame's stock was seized, and she herself called on to answer for infringing the rights of the profession. The lady stoutly maintained that cod-liver oil was an article of daily consumption, and further that it was a recognised food, as much as butter or salad oil. The counsel for the pharmaciens argued that its therapeutical properties, and its disagreeable taste (!), proved it to be a medicine belonging exclusively to the shops of pharmaciens. The court took this view fully, and condemned Madame Dieudonné to pay 500 francs fine, and 300 francs for *dommages intérêts*. Some grocers united and lodged an appeal, but the higher court confirmed the first sentence.

DINNER TO PROFESSOR TYNDALL IN NEW YORK

JUST before Professor Tyndall left the United States, a grand dinner was given in his honour at Delmonico's, a large proportion of the celebrated men of America combining to pay well-earned honour to the great science leader. The speeches were of a much higher order than after dinner orations usually are, and from one or two of them we may make some extracts of particular interest.

The Chairman, Mr. Wm. M. Evarts, proposed the toast of the evening. Mr. Evarts is an eminent lawyer, and he accounted for his position that evening by explaining that the two great representatives of American science, Professor Henry and Professor Agassiz, were both unavoidably absent, and that, therefore, in order to avoid all jealousies between the various schools of opinion, it became necessary to place some one in the chair who should be famous for his ignorance of all the sciences. After a lively speech, Mr. Evarts very happily concluded his remarks by referring to the whimsical notion of a modern German physician, noticed by Mr. Crabb Robinson in his memoirs. This learned man had made in entire good faith this proposition as the result of his investigation into the affairs of men; that diseases and all the accidents which brought men under the care of the medical profession, were not all evils, and not in themselves objects which required care, but that the whole intent and purpose of the divine arrangement in the permission of disease, and these misfortunes was the training of able and learned physicians. (Laughter.) A magnificent idea! Applied to the learned profession of the clergy it at once accounted for the existence of moral evil. (Laughter.) That this final good of the production of eloquent and learned clergymen should be vouchsafed the human race. (Laughter.) And in my own profession that all the misfortunes in men's affairs, the loss of property and of character, and all that brings men to the lawyer's office, finds its excuse and its justification in the brilliant result of the skilled and accomplished lawyer. (Laughter.) And bringing it to its last analysis, I propose to you, gentlemen, that the sun shines in order that Professor Tyndall may demonstrate it.

Professor Tyndall replied to this toast in a speech full of practical wisdom, but we can only spare space to quote the very interesting sketch from his personal history which he gave incidentally:—"In 1848, wishing to improve myself in science, I went to the University of Marburg—the same old town in which my great namesake, when even poorer than myself, published his translation of the Bible. I lodged in the plainest manner, in a street which, perhaps, bore an appropriate name while I dwelt upon it. It was called the Ketzerback—the heretic's brook—from a little historic rivulet running through it. I wished to keep myself clean and hardy, so I purchased a cask, and had it cut in two by a carpenter. Half that cask, filled with spring water over night, was placed in my small bedroom, and never, during the years that I spent there, in winter or in summer, did the clock of the beautiful Elizabethe-kirche, which was close at hand, finish striking the hour of six in the morning before I was in my tub. For a good portion of the time I rose an hour and a half earlier than this, working by lamp-light at the differential calculus when the world was slumbering around me. And I risked this breach in my pursuits, and this expenditure of time and money, not because I had any definite prospect of material profit in view, but because I thought the cultivation of the intellect important—because, moreover, I loved my work, and entertained the sure and certain hope that, armed with knowledge, one can successfully fight one's way through the world. I ought not to omit one additional motive by which I was uphold at the time here referred to—that was, a sense of duty. Every young man of high aims must, I think, have a spice of this principle within him. There are sure to be hours in his life when his outlook will be dark, his work difficult, and his intellectual future uncertain. Over such periods, when the stimulus of success is absent, he must be carried by his sense of duty. It may not be so quick an incentive as glory, but it is a nobler one, and gives a tone to character which glory cannot impart. That unflinching devotion to work, without which no real eminence in science is now attainable, implied the writing at certain times of the stern resolve upon the student's character: 'I work not because I like to work, but because I ought to work.' In science, however, love and duty are sure to be rendered identical in the end."

Dr. Draper replied for "English and American Science," and the

Rev. Henry Ward Beecher respondod to the toast of "Religion and Science." The latter gentleman urged that the one object of both religion and science was the discovery of truth. He said—I hold religion to be a personal thing; it is but another name for manhood—(applause)—and without undervaluing at all any of those methods by which we develop manhood, the aim of all religion, and the largest aim that you can give to religion is perfect manhood. Nor am I deterred from saying this, from the fact that it was said before me by Paul himself—(laughter)—a gentleman every inch—(laughter)—and worthy to live in our times—(laughter)—but it was not his fault that he was born far back. (Laughter.) Now, if you consider all these surrounding influences, I hold that ministers are as good examples of men that show their love for the truth as you can very well find in the community, and I think that they are to-day reading more of Professor Tyndall's books, and Mr. Huxley's books, and Herbert Spencer's books, than any other profession in the United States of America. (Applause.) And that isn't all; I will say, too, for their credit, that they are more puzzled by them than anybody else. (Laughter.) Religion being manhood in perfect development, we have no fears of the incursion of science. There was a time when religion did not allow the world to turn around, and made the sun do all the jobbing. (Laughter.) There was a time when men looked upon the gaps and chasms in geology, and the inferences deduced from it, with the utmost alarm and peril. That time is passed by. We have learned that there can be no truth outside of the Bible that can substantiate its existence and its power, that will not compel the interpretation of the Bible to its side. If I held an old, tottering theory that I had myself about half given up, I should be afraid of science, and should say, "Don't come near with your jarring wheels here; you may shake this down." But I am not afraid of tests. I believe in manhood; I believe in its power of expansion, in its all-pervading and divine atmosphere, and therefore I hail all discoveries that science can make; and when these discoveries, one after another, shall have been so netted together that they can throw, light upon the obscure places, if it obliges us to change a doctrine, if it obliges us to change a theory, if it obliges us to alter our philosophy, I love truth so much that I will change anything for the sake of truth, and nothing for any other reason. (Applause.) You cannot go too fast or too far, so that you bring us true results.

Injection of Ammonia for Snake Bite.—"Injection of ammonia," writes the *Daylesford Mercury*, "has proved efficacious in the case of a lad ten or eleven years old, named Joseph Metcalf, who was poisoned by a snake in Kidd's Gully recently. While tailing cows near Rufus's store, the lad's attention was attracted by a laughing jackass hovering over a bush. He threw a stone at the bird, and at the same instant a snake rose up and struck him on the stomach. The reptile quickly disappeared, and immediately afterwards he became sick, and felt pains in the back, &c. After sitting down awhile, he went home, and was taken by his father to Dr. Macintyre at 9 a.m. This was about an hour after the lad had been bitten. Dr. Macintyre found him drowsy, with a weak pulse and dilated pupils. There were two punctures in the patient's skin, and in these the doctor rubbed ammonia, as well as injected it into his arm. At noon a second injection was made, the boy in the meantime having been kept in motion and supplied with nourishment, stimulants, &c. After these remedies had been used, the patient was allowed some sleep, and at a later hour he left the doctor's house apparently cured. Dr. Macintyre says the beneficial effects of the injecting syringe were immediate, and he has no doubt of its value when promptly resorted to."

PHARMACEUTICAL MEETING.

FLUID EXTRACTS.

AT the last evening meeting of the Pharmaceutical Society (March 5th) Mr. Umney placed upon the table some fluid extracts, which he had prepared in accordance with the formulæ given in the new edition of the United States Pharmacopœia. He remarked that percolation was the mode of preparation entirely resorted to in this production, the menstruum being a mixture of alcohol (sp. gr. ·835), glycerine, and water. Having been reduced to the proper state of division and moistened with the menstruum, the drug was allowed to stand in a moderately warm place for four days, and percolation proceeded with as slowly as possible. Displacement was then carried on with dilute alcohol (sp. gr. ·941) and operating upon sixteen troy ounces of the drug, the first fourteen fluid ounces were reserved, and the remaining percolate mixed with an ounce of glycerine, and evaporated to two fluid ounces. He himself was of opinion that fluid extracts thus prepared far surpassed those of the British Pharmacopœia. The specimens on the table were then handed round for inspection, and created considerable discussion. The President thought the taraxacum extract had a very bitter flavour, which Mr. Umney accounted for by its great concentration, it being ten times stronger than Succus Taraxaci B. P. Mr. Sandford inquired how it was the Extractum Pareiræ was so dark in colour. Mr. Umney said it was owing to its great strength. Mr. Sandford, however, assured the meeting he had prepared fluid extract equally strong but no darker than ordinary brown sherry; he thought the dark colour was objectionable, and that the American preparation was on the whole no improvement upon that of the Pharmacopœia. Mr. Hills thought they ought to be much obliged to Mr. Umney for having brought these preparations under their notice. The President also expressed the thanks of himself and the meeting for the interesting specimens on the table, remarking that it was impossible to do justice to so important a subject in so hasty a manner.

SUPPOSITORIES.

Mr. A. W. Gerrard then produced some specimens of suppositories and pessaries prepared with glycerine and soap, oil of theobroma and wax, and oil of theobroma and paraffin. He believed that the theobroma and paraffin basis would be found to answer best, as it formed a combination which softened readily at the temperature of the body, which is about 98.° The subject of suppositories gave rise to a somewhat warm discussion. Mr. Mackay said that Sir James Simpson strongly advocated their use, believing they would in some measure supersede other forms of medicine. Among the best combinations for suppositories he placed a mixture of glycerine and gelatine, which gave very satisfactory results. He thought, however, that paraffin was a substance well worthy of trial. Another gentleman expressed doubts as to the ability of combining other substances, such as the extracts, or morphia, with a paraffin base; but Mr. Gerrard stated he had never experienced any difficulty whatever in that respect. Mr. Fraser created considerable amusement by giving an account of a gentleman, one of his customers, having swallowed a box of 2-grain morphia suppositories in the belief that they were ½-grain morphia pills. Mr. Gerrard trusted that on some future occasion he should be able to give the results of further experiments.

A paper on "Legal Pharmaceutical Preparations," by Charles Symes, Ph.D., was also read by Dr. Attfield, in which the writer observed that it was a hardship to pharmacists that they were legally compelled to prepare all the medicines of the Pharmacopœia in strict accordance with official formulæ, when it was well known that many of the processes were very unsatisfactory and imperfect. He hoped to find in the Appendix a page of "errata" in the former part of the work, and a liberal recognition of new pharmaceutical remedies. The meeting was concluded with an address from Dr. Redwood, making further reference to the proposed Pharmacopœia Appendix.

WHENEVER you buy or sell, let or hire, make a clear bargain, and never trust to "We sha'n't disagree about trifles."

CHEMICAL SOCIETY.

Thursday, February 20th, 1873.

DR. FRANKLAND, F.R.S., President, in the Chair.

The first paper read after the usual business of the Society had been transacted was entitled, "Solidification of Nitrous Oxide," by Mr. T. Wells. The gas having been previously liquefied by compression in a strong iron vessel can be caused to solidify by the rapid evaporation of the liquid in a current of air. It somewhat resembles solid carbonic acid in appearance. A paper "On Aurin," by R. S. Dale, B.A., and C. Schorlemmer, F.R.S., was then read, giving an account of the authors' investigation of the composition and chemical properties of this dye. "Researches on the Action of the Copper-zinc Couple on Organic Bodies. I. On Iodide of Ethyl," by J. H. Gladstone, F.R.S., and A. Tribe, was read by Dr. Gladstone; and the last communication "On the Determination of Ammonia in the Atmosphere," was read by the author, Mr. A. H. Smee, jun. The method employed is to collect and examine the mixture condensed from the atmosphere on the external surface of a suitable glass vessel filled with ice. The lecture was illustrated by carefully made drawings of the magnified crystalline forms which are left on evaporating the liquid.

Thursday, 6th March, 1873.

Dr. GLADSTONE, F.R.S., Vice-President, in the Chair.

After the minutes of the previous meeting had been read and the other ordinary business of the Society transacted the following communications were read:—

1. "On the Action of Hydrochloric Acid on Codeine," by Dr. C. R. A. Wright, being a continuation in the codeine series of the author's former researches on morphine. 2. "On new Processes for Mercury Estimation with some Observations on Mercury Salts," by J. G. Hannay. 3. "On a Method of estimating Nitric Acid," by T. G. Thorpe, F.R.S.E., the process depending on the ease with which nitric acid is converted into ammonia by the copper-zinc couple of Messrs. Gladstone and Tribe. 4. "Note on a Reaction of the Acetates upon Lead Salts, with remarks on the Solubility of Lead Chloride," by F. Field, F.R.S. 5. "Observations on the nature of the Black Deposit in the Copper-zinc Couple," by J. H. Gladstone, F.R.S., and A. Tribe, F.C.S. 6. "On an Air-bath of constant Temperature between 100° and 200° C.," by Dr. H. Sprengel. This consists of a bath similar to the ordinary chemical hot water oven but made of sheet lead, and filled with dilute sulphuric acid of such a strength as to boil at the desired temperature.

The meeting was finally adjourned until Thursday, 20th March, when a lecture "On Iron and Steel," will be delivered by C. W. Siemens, Esq., F.R.S., etc.

MUD BATHS.—There are some baths in Hungary and Bohemia where visitors plunge themselves into a basin of soft mud instead of crystal water. These mud baths, *moorbader*, are quite popular in their neighbourhood. So at Saint Amand, in the north of France, there are some famous mud baths salutary for diseased articulations, rheumatism, atrophy, etc. The patient is planted up to his neck in a hole in the soil filled with a black, soft mud, warmed by the thermal waters which well up through it.

A TENACIOUS COLLODION FILM.—A collodion film of considerable strength may be prepared by making a concentrated solution of gun-cotton in equal volumes of ether and absolute alcohol, and adding to it a small quantity of balsam of copaiba. This collodion solution, when largely diluted with ether and alcohol, may be used for rendering linen and cotton fabrics waterproof.

NEW COLOURING MATTER DERIVED FROM ANILINE.—Safranine is the substance referred to; it is prepared by heating a mixture of two parts of nitrite of aniline with one part of arsenic acid for five minutes at a temperature of from 80° to 120°, then throwing the mixture into boiling water, and neutralizing with lime. The liquor turns a fine red colour, and after standing for some time, it is filtered through linen, precipitated by salt, filtered, drained and pressed, when it is ready for market. The nitrite is formed by passing nitrous acid gas through an aniline solution.

Provincial Reports.

IRELAND.

UNITED SOCIETY OF CHEMISTS AND DRUGGISTS.

A MEETING of the above society was held at 12, Grafton-street, on Monday, the 3rd inst. There was a very large attendance, the majority of the leading chemists of the city being present. In the absence of the President (E. M. Hodgson, Esq.) J. Brooks, Esq., presided. The hon. sec., W. Hayes, Esq., said: The principal business of the evening would be to consider the best means to adopt to secure a status similar to that of the Pharmaceutical Society of Great Britain, and to obtain the power to compound physicians' prescriptions. He would mention three plans for consideration—first, to endeavour to make terms with the Apothecaries Company, who, at present, alone have the power to grant licences to compound; secondly, to petition the Pharmaceutical Society to extend their operations to this country; and thirdly, to promote a special Act of Parliament for the purpose.

Mr. Wells was of opinion that the best plan to adopt would be to learn the opinion of the Apothecaries Company. He had reason to believe that they would be disposed to meet the chemists and to establish an examination similar to the minor of the Pharmaceutical society, for chemists already in business.

Mr. Marshall thought it would be better to get the Pharmaceutical Society to establish a branch similar to the one in Scotland.

Mr. Simpson said the Pharmaceutical Society could not do anything in the matter without obtaining a special Act of Parliament for the purpose.

After a long discussion, in which Messrs. Bermingham (T.C.), Goodwin, Grindley, Brownrigg, &c., took part, it was proposed by Mr. J. T. Holmes, "That a deputation from this society, consisting of Messrs. Goodwin, Hayes, and Wells, wait upon the Governors of the Apothecaries' Hall, and ascertain their views on the subject; the deputation to have power to add to their number."

Mr. W. J. Brownrigg seconded the proposition, which was put to the meeting, and carried unanimously.

After some conversation about the financial state of the society, which the secretary reported as very satisfactory, it was decided to engage permanent rooms, with the view of forming a reading-room and library for the assistants and apprentices, and arrangements will be made for reading papers on subjects of interest to the trade.

The greatest unanimity prevailed, and the chemists of Ireland are determined to carry their point, viz., the compounding of prescriptions.

(BY TELEGRAPH.)

DUBLIN, March 14, 1873.

A deputation, consisting of Messrs. Goodwin, Hayes, Hodgson, Holmes, and Wells, waited on the Apothecaries' Society to-day. The following draft bill was proposed by the Apothecaries' Hall:—

"Pharmacy Bill (Ireland), To regulate the Practice of Pharmacy in Ireland, to initiate a Pharmaceutical Society, and to amend Act of 31 George III.

"1.—To enable the Apothecaries Hall to grant licences to chemists to compound prescriptions.

"2.—After certain date, all chemists before commencing business to be examined.

"3.—Examiners for purpose of this Act: Governor and Six Members of the Apothecaries' Hall, *with Six Examiners selected by the Pharmaceutical Society of Ireland*

"4.—Subjects—Latin and English, Arithmetic, Botany, Materia Medica, Pharmaceutical and General Chemistry, Practical Pharmacy, and British Pharmacopœia, *not* to include Theory and Practice of Medicine, Surgery, Midwifery, or any branch of Medicine or Surgery.

"5.—Registrar to be appointed.

"6.—Fees."

The deputation was well received, and it is most likely that a bill somewhat like that of which the above is a draft will be agreed to. A nominal examination is to be suggested for chemists already in business.

COURT OF QUEEN'S BENCH.—DUBLIN, FEBRUARY 22.

THE GOVERNORS OF THE APOTHECARIES' HALL *v.* ROBERT CROSKERY.

In this case the action was instituted by the plaintiffs to recover from the defendant two penalties of £20, late currency, for practising the art and mystery of an apothecary, without having obtained the necessary certificate from the Apothecaries' Hall, authorizing him so to do, as required by the Act of the 31st George III., cap 34. The defendant was the proprietor of two medical establishments, one at Portrush, in the County Antrim, and the other at Coleraine, in the County Londonderry. He had lately presented himself for examination at the Hall, but was unsuccessful. There was no appearance for the defendant, and the case having been proved, a verdict was returned for the amount claimed.

GREENOCK.

GREENOCK CHEMISTS' ASSOCIATION.

AT a meeting of the Greenock chemists, it was resolved unanimously to raise the prices of drugs to the new Glasgow standard. At the same meeting, it was also agreed unanimously to close at eight o'clock on ordinary nights, and at nine o'clock on Saturdays.

GLASGOW.

THE annual festival of the chemists and druggists (under the auspices of the Glasgow Chemists' and Druggists' Association) was held in the Albert Hall, on the 27th February, 1873. Thomas Davison, Esq., President, in the Chair. On the platform were Messrs. Kinuinmont, J. Hatrick, Currie, Walker, Macdonald (Glas. Apoth. Co.), Clarke (Sec.), McAdam, Galbraith, Fairlie, Drs. Robertson and Clark, &c., &c.

Tea being over, the Chairman apologized for the absence of several gentlemen who, from illness or other causes, were unable to be present.

The President, T. DAVISON, Esq., delivered the following address:—

Three years ago when I was honoured by being elected president, and on my first taking the chair at our opening meeting, I had to address you as "Ladies and Gentlemen." Now, almost my last meeting as president, I have again to address you as "Ladies and Gentlemen." As the question of ladies being admitted to our Society is now being agitated, I will, with the permission of the gentlemen, address myself to the ladies first.

I am not going to advocate what is popularly termed "women's rights." I think that expression wrong; for women have had their "rights" ever since the creation, when she was made a helpmeet for man—the only true place a woman should occupy. Many will say that to be a helpmeet women can assist in the shops, and occupy a place on the School Board, Parochial Board, etc. But to soothe the cares of the sterner sex, and when troubled and perplexed to give a word of comfort and encouragement, and in a thousand little ways make our lives sweeter and happier, is, I think, the true meaning of helpmeet. But, let women have their say in the turmoil of contested elections, enter universities, and become professional women, legal as well as medical—and pharmaceutists if they please—I would not oppose them, for they soon would become weary of the hard rough work we of the sterner sex have to undergo. The example of the London University is sufficient to show how soon they wearied; I don't oppose them becoming pharmaceutists, which they can do without becoming members of the Pharmaceutical Society.

But let the ladies pass their Preliminary and Minor examinations, and the Major if their ambition is great. But just hear what Professor Blackie said the other day on this point:—"We sometimes did not know what the women wanted; but he promised that if they stated distinctly what they wanted, he would not stand in the way. If they had strength to snuff the fœtid horrors of the dissecting-room,

or withstand the heartless wrangling of the bar—if they thought it would be a dignity to their sex to wear a wig, in the name of all the wrangling angels, let them go in and do it. He would not oppose them. But he would not stand up for them in reference to these matters; because they ought to thank God for being free from some of that hard, harsh, angular, gritty work which took the hearts out of us, if we had any to take out at all." Therefore, ladies, do not give up your true, dignified, and exalted position *at home*. You can achieve more there, than becoming—

> "'A short-haired woman, frizzy, curled,
> Her flag for woman's rights unfurled.
> Her middle finger black with ink,
> Her staring eyes that will not wink,
> Her spectacles—a double-barrelled terror to men that think.'"

The application of ladies for admission to the Pharmaceutical Society ought to be a stimulus to young men who have for some years been at the trade. Surely they will not sit still and let young ladies pass them in the race for the title of chemist and druggist or pharmaceutical chemist. I fear there is very much indifference in this matter; too much of the spirit of Micawber—hoping and expecting "something to turn up." Now, gentlemen, don't give way to any such spirit as that; it is day-dreaming, a pernicious way of wasting time—

> "The child may dream; the man must act
> With reverence for the world's great fact;
> And look to toil, and sweat, and bleed,
> And gather his energies, all compact."

To those young men who will be the future chemists and druggists of this great city, I would urge them at once, and without any delay, to get through their minor examinations; every year it will become more difficult and more expensive. The original intention of the founders of the Pharmaceutical Society was that the Preliminary Examination should be for apprentices, Minor for assistants, and Major for those entering into business. But as the law says that those who can pass the Minor and Modified may "keep open shop," the Council of the Pharmaceutical Society think, as the Minor is to be the entrance into business, it must be made more stringent; and the fee for it to be £5 5s. with the title, Chemist and Druggist. The Major with the title of Pharmaceutical Chemist.

Pharmaceutical chemist will then become more an honorary title, not one of qualification. This surely ought to be a stimulant to every young man here to be up and doing; and not sit grumbling about want of opportunity, and little remuneration to be had after they do pass. You have the future as it were in your own hands; the proper remuneration will come if you show yourselves worthy of it. Remember the fable of Jupiter and the waggoner, and the lesson taught by it. "The gods help them who help themselves." To those who have to pass the "Modified Examination"—and I regret to say there are yet many who have to do so—according to a statement by the Registrar, 2,900 registered themselves for the Modified, and only 1,430 have passed. To them I hardly know what to say; they got the privilege of passing it by making a declaration that they had been for three years previous to the passing of the Act engaged in dispensing and practical pharmacy. It is now more than four years since the passing of that Act, making it as it were an apprenticeship of seven years. All that is required of you in that examination, is to show you are practically acquainted with those things you are daily handling.

Now, gentlemen, I would make an effort, and don't let it be said of Glasgow that there are so many here who have not passed the Modified examination. Delays are dangerous. A sad instance occurred very lately—a gentleman who had for twenty-five years held a first position in a London house, died suddenly, leaving a wife and family. Application was made a few weeks ago, for a grant from the Benevolent Fund, but it could not be granted. Her husband was not a registered chemist and druggist; he not having passed the Modified examination, which privilege I suppose he had claimed.

Now, just a word or two for our association. Some blame, I know, is attached to those in office for not more particularly attending to the special wants of the assistants; but you must remember it has been a summer and winter of work with a price list—a work of which we may be proud, even with all its faults. Then, again, a class was begun this winter by Mr. Currie, of which the assistants in greater numbers might have taken advantage, which has been a very interesting one. To those who have regularly attended that class, it has been great gain. But to those who have not, it has been a positive loss. Mr. Currie deserves great praise for giving up so much of his valuable time for the benefit of assistants. I must say you have advantages here above any city in the kingdom. I might just say here that there is a small pamphlet, published by the Council of the Pharmaceutical Society, called "Hints to Students," which you would find very useful, and which can be got by applying to the secretary here, Mr. Kinninmont. By way of encouragement to those who are in business, I might mention that two druggists have been fined for want of qualification, and others are being looked after.

Many faces here to-night we would like to see at our monthly meetings; their presence would cheer those who have the work to do. The association is much indebted for the interest taken in all our work, and for the aid which frequently comes to us, to the noble chief at the head of the firm I have the honour to belong—a right noble one he is of the clan McDonald. I wish all the employés under that chieftain would follow his example by giving us their countenance; then we might be able to make a pull, a strong pull, a pull all together. The last festival we had, Mr. McDonald said the time would soon come when all druggists would close at eight o'clock; that has now almost been accomplished, a very few keep open after that hour. Before I sit down, allow me to say that two prizes will be presented this evening to two members of Mr. Currie's class.

At the close of the meeting the President presented to Mr. Wm. Cleghorn Bentley's "Manual of Botany," for excelling in exercises on P.B.; and to Mr. Rob. Wallace Squire's "Companion to the British Pharmacopœia," for excelling in exercises in Latin.

A concert was effectively carried out by a lady (professional) and several gentlemen (amateurs), the latter, with one exception, being chemists. An assembly followed the concert.

The fifth general meeting of the Glasgow Chemists' and Druggists' Association was held in Anderson's University on the 5th of March, 1873.

Owing to the absence of the President (through illness) the Vice-President, Mr. Arch. Paterson was called to the Chair. The Secretary was then called upon to read the minutes of the last meeting, also minutes of a meeting held on the 19th of February, for the purpose of forming an Assistants' Branch of the Association. He afterwards read a brief report of the "Annual Festival," held on the 27th of February, 1873, and stated that a full statement of income and expenditure connected with the festival had not yet been made, but he felt warranted in saying that there appeared every likelihood of a fair surplus being left after paying all expenses.

A vote of thanks was then accorded the committee for their labours in connection with the festival.

Mr. James M. Fairlie then read a paper on "Artificial Silicates," in which he gave an interesting account of the history and manufacture of glass. In passing he briefly alluded to the process of etching upon glass, and he thought that the names on our bottles and drawers might be etched instead of painted as at present, which, although likely to cost more at first, would in the end be found to be the more economical method. On Mr. Fairlie resuming his seat, a little discussion on the paper took place by Messrs. Brodie, Fenwick, Paterson, &c.

Mr. Cassells was then elected a member.

A vote of thanks to the chairman brought the meeting to a close.

LIVERPOOL.

LIVERPOOL CHEMISTS' ASSOCIATION.

The eighth general meeting was held at the Royal Institution February 13th, the President, Edward Davies, Esq., F.C.S, in the chair.

Mr. Thos. Williams, F.C.S., exhibited a specimen of artificial galena which he had made, and described the process.

A discussion on the solubility of pure lead in sulphuric acid followed, in which the President, Messrs. Armstrong, Williams, and A. H. Mason took part.

Mr. Redford called attention to a letter which had appeared in the local papers from Dr. Waite, in reference to the recent case of death following the inhalation of nitrous oxide, and a short discussion took place as to whether the accident was due to impurities contained in the gas, or to the state of the patient when inhaling it.

Mr. Abraham called attention of members to the remarks of Professor Redwood at the last meeting of the Pharmaceutical Society, and suggested that much assistance might be rendered to the Professor if suggestions were made as to the additions or alterations necessary in the proposed appendix.

Mr. Joseph Hallawell (hon. sec.) then read a paper on "Guarana," (printed elsewhere).

At the close of the paper, Mr. Abraham proposed a vote of thanks to the hon. sec. for his valuable and instructive paper, which was seconded by Mr. Shaw, and very cordially adopted.

The following item from our Liverpool correspondent's letter will be of interest. Co-operative Stores.—The drug department has opened since your last issue. It consists of a small counter about six yards in length, of the usual width. This in a fancy fair is just about what you may imagine. The wall portion behind this counter is beautifully fitted up with bottles and show cases, etc., but I do not think it can interfere with the legitimate pharmacist; I do not think the general public appreciate cheap physic, and as everything is hurry and bustle, a dispenser cannot have his thoughts concentrated as he should for such a calling. They may do a large trade in quack medicines, etc. The association is now doing an enormons business; steadily increasing. They have now over 8,000 shareholders and 10,000 members. I hear the local secretary of the Pharmaceutical Society called a meeting of the pharmaceutical chemists, to consider what was to be done in the matter. The proceedings were of a private nature, but the resolution arrived at was that nothing could be done. The late manager of the London Apothecaries' Company at their branch here manages the drug department for the stores.

MANCHESTER.

CHEMISTS' ASSISTANTS' ASSOCIATION.

The third annual dinner of the above Association was held at the Blackfriars Hotel, on Wednesday evening, February 19th; covers were laid for thirty-three. The after-dinner proceedings commenced by the President (Mr. Lane) calling upon the Secretary (Mr. Pidd) to read a short report of the proceedings since the commencement of the present session, which showed that eight fortnightly meetings had been held, at each of which a paper on some subject connected with Pharmacy had been read and discussed. In regard to the number of members now on the roll, it was very gratifying to the committee to see that the number this session is ten in excess of last year—last year being thirty-six, and this forty-six. The usual loyal toasts were proposed, followed by that of the Pharmaceutical Society, the Manchester Chemists' and Druggists' Association, and the Manchester Chemists' Assistants' Association. The President, in responding to the latter toast, urged upon all those present not already members of the Association the necessity of becoming so, assuring them that great benefit may be derived from the existence of such an Association. With song and friendly discourse a most enjoyable evening was brought to a close.

CHEMISTS' AND DRUGGISTS' ASSOCIATION AND SCHOOL OF PHARMACY.

The last ordinary monthly meeting of the session was held in the rooms of the Association, 37, Blackfriars-street, on Friday evening, March 7th. Mr. W. Scott Brown, President, in the Chair.

Mr. F. B. Benger delivered a lecture on "Telegraphy," treating the subject under the following heads:—

Early modes of transmitting intelligence—static or frictional electricity — various, more or less, unsuccessful attempts to use it as a means of communication—current or voltaic electricity—batteries—conductors. Three effects produced by the electric current taken advantage of in instruments now used—1st. Its power to decompose chemical salts. 2nd. To deflect the magnetic needle. 3rd. To convert a bar of soft iron into a temporary magnet. These effects were shown, and working models of the following instruments used to illustrate the subject:—Bain's Chemical Telegraph, Single Needle do., Mirror or Reflecting do., Alphabetical do., Type Printing do.; Electrical Fire, Frost, and Thief Alarms were also shown in use, and their construction explained.

The Chairman announced that it was the intention of the Association to make considerable additions to the museum, and urged those present to use their influence to obtain new members, as it was the desire of the Association to remain entirely self-supporting. It was also stated that the examination for prizes in the chemistry class would be held on the following Thursday evening at eight o'clock, and that in the materia medica and botany classes on Thursday, March 20th, at the same hour.

WHITEHAVEN.

At a meeting of chemists and druggists held here on the evening of February the 14th, it was decided that all vermin killers must be registered, and no packet of less price than 4d. should be sold to any customer.

Dispensing Charges.—It is not surprising that persons who have no technical knowledge of the subject should fall into absurd errors in discussing such a question as the charges of druggists for dispensing medicines; but it is unfortunate that those who have better information, and should be able to frame a more trustworthy judgment, should follow them in their errors. A writer in a daily paper has discovered that he can get a prescription dispensed far more cheaply in Mile End than in Mayfair; and a medical paper follows the popular lead in exclaiming that this is very sad, and a proof of extortion. In the first place, the same may be said of herrings or potatoes, or of boots or trousers. The expenditure of a West-end druggist to meet the requirements of a more wealthy and fastidious *clientèle*, is on a very different scale from that of the small druggist of the back streets. Even on the ground of ordinary trade-differences of price depending on the differences between the East and the West, the poor and rich, a considerable difference in price is to be expected for articles much more delicately chosen, more carefully prepared and issued. But the fact which medical writers may be expected to bear in mind is, that there is the best reason for desiring to remove the position of a pharmacist from that of a person bound to merely trade considerations. Patients and physicians have a common interest in encouraging the higher education of pharmacists—in offering the rewards of higher remuneration and higher social standing for better education, professional trustworthiness, the cultivation of nice skill, and a professional standard of decorum. These are things which are to be encouraged by being paid for. The skill of the chemist, and his professional self-respect and knowledge, are appreciable elements in his value and in the value of his drugs. The extra sixpence or so on the bottle of medicine or the box of pills represents not only the return for the larger capital needed for a high-class business, but the tax which we are willing, within reasonable limits, to pay for greater neatness and elegance, promptitude, security, freshness of drugs, a large and well-drilled staff, and a known reputation, won slowly, and scrupulously preserved. We are willing to pay for these immaterial elements in our dispensing, even more than for the material. It is absurd and mischievous for medical writers to ignore these considerations. A dead level of low prices is incompatible with the constant progress of pharmaceutical education and practice, which it is an important object to promote.—*British Medical Journal.*

Medical Gleanings.

WHEN the Prince of Wales got better, the medical profession was marvellously unanimous in its exultation, and though for form's sake Providence was admitted to a share of the credit, yet it was clearly understood that this was a generous concession on the part of the physicians. But a far more pitiful manifestation of professional littleness awaited us from the late Imperial death-bed. Of course we all know that the best medical skill was devoted to his cure; but Napoleon was on his death-bed; surgical skill was of no avail, and all England mourned for one who at least had been her friend. And this was the time chosen by one of those who had attended at his bedside to exhibit his special knowledge of the disease, to call in question the opinion of his coadjutors, and to rush into the public prints to exonerate his own professional character. The professors of medicine must often be defeated when they wrestle with death, and the public voice never blames them if they have done their best. But let them learn to bear their defeats manfully, and if they must speak or write, let their words be words of sympathy for the bereaved, and not of self-excuse or self-laudation.

The woman movement is going on step by step, and the Edinburgh Conservatives have made quite a new wriggle. The committee of the Edinburgh Infirmary have decided that the only day on which they can provide separate hospital instruction for the ladies is Sunday. The ladies have per force accepted the alternative, but the decision has given dissatisfaction to those who think that in a hospital, as elsewhere, Sunday should be a day of rest. In less civilized countries common sense occupies a more respected position; we read for example that the Russian Government has authorized the Academy of Medicine of St. Petersburg to accept a gift of £8,000 offered by Madame Lidia Rodstrenna to the Academy, for the foundation and institution of a course of medical instruction for the use of women.

Mr. Henry Hancock, president of the College of Surgeons, delivered the Biennial Hunterian Oration on February 14th, and took occasion to severely criticize the high demands made for a classical education of candidates for the medical profession. John Hunter himself cared little for education of this class, never passed an examination in his life, but was endowed with extraordinarily acute powers of observation, and the true genius of a discoverer. Mr. Hancock brought forward an immense array of instances, in all professions, of men whose genius was special, but who had not had the inclination, or, perhaps, had not had the opportunity of acquiring a high-class general education, and yet who attained the highest positions, and the most brilliant honours in the works to which they devoted themselves. Passing over the notable names in literature and art which would occur to any one, there was still left a legion of mighty names for the lecturer to mention—Lord Eldon, Lord Chancellor for 25 years, proudly showing his son the shop at Canterbury where the great lawyer's father shaved for a penny; Sir Wm. Herschell, late Astronomer Royal, playing the hautboy in the Durham Militia; Hugh Miller, Faraday, George Stephenson, and a host of others, all prove that it may be possible to trust too implicitly to a system of competitive examinations. "Twice has India been saved by the genius and courage of men who, like Hunter, were deficient in scholastic attainments." Neither Clive nor the brothers Lawrence would have stood much chance of getting through the present system of competitive examinations. For *Fellows* of the College of Surgeons Mr. Hancock urged it was quite fair and right to institute the examinations in arts, yet, this system, applied to all indiscriminately, tended to deprive the poorer classes of the assistance of properly-qualified men. He continued:—"Under the old regulations many estimable men—not too refined or too highly educated scholastically, I admit, but skilful and well informed professionally—were content to settle down and pass their lives among the poor, accommodating themselves to their peculiarities, and ministering to their wants. These men are no longer allowed to enter our profession; and, inasmuch as the higher the education the greater the refinement of taste and habits, it is much to be feared that men who have been forced through the anxiety and expense attending these examinations will hardly be inclined to settle down with their wives and children in the squalid purlieus of large cities. In the year 1842, 670 gentlemen were admitted members of this College. In the year 1872, notwithstanding the population had increased during the thirty years' interval by nearly seven millions, only 374 were admitted."

This was the outline of Mr. Hancock's remarks, and it is worth mention, for there is a far too ready belief in the omnipotence of a certain fixed curriculum, and a too slavish adherence to its demands.

There is bad news for the dentists, and, indeed, for the whole human race. In the last volume of St. Bartholomew's Hospital Reports, Mr. Coleman points out "the degeneracy of human teeth," ascribes it to "the part played by the knife and fork as substitutes for the teeth," and pleasantly suggests that "one of the modes" by which mankind will become extinct, will be "by the ultimate development of an edentulous race, incapable of mastication, and therefore of adequate nutrition." Well, we will not cry even over this misfortune; "sufficient unto the day is the evil thereof." When that day comes, we can live on "pap," or by suction—not to speak of Liebig's food. Meanwhile, the teeth will probably last our day and generation.

THE PHARMACEUTICAL COUNCIL

AT the meeting of the Council on Wednesday, March 5th, the draft of the proposed bye-laws was submitted by the Society's solicitor. Whatever merit the proposed alterations may possess, they certainly are not overdone with perspicuity. With reference to members who have omitted to pay their subscriptions, the bye-law as it at present stands enacts that the defaulter shall be restored to his former status on payment of arrears, and any fine not exceeding half-a-guinea.

Probably that statement was considered too plain English for a bye-law, since it gives place to the following involved sentence:—"It shall be competent to the Council to restore any person whose name has been so removed to his former status in the Society on payment of his subscription for the then current year, and a sum not less than the amount of half of one year's subscription, nor exceeding five guineas, as for and in commutation of his arrears of subscription."

The only alteration which seems of importance occurs in clause 16 of section 10, which enacts that, "after the 31st day of December, 1874, no person shall be admitted to the Major or the Minor examination who shall not have attained the full age of twenty-one years, and after the 31st day of December, 1876, no person shall be allowed to pass the Major or the Minor examination unless he shall satisfy the examiners that for three years he has been registered and employed as an apprentice or student, or has otherwise for three years been practically engaged in the translation and dispensing of prescriptions." Of this clause Mr. Hampson moved the rejection *in toto*, contending that the hard and fast line of restriction to three years was unnecessary, and was not the intention of those who framed the Acts of Parliament. For himself, he relied upon the increasingly-practical character of the examinations, denying that the statute gave any power to the examiners to inquire into the antecedents of the candidates before them.

The amendment was supported by Messrs. Urwick and Frazer, the former maintaining that, although in their private capacity they might insist upon an assistant having three years' experience, what they did in their individual establishments must not be made the foundation for a formal bye-law when opposed to the Act of Parliament. The other members of the Council opposed the amendment, Mr. Schacht observing that, inasmuch as the regulations came from the Board of Examiners, upon whom the responsibility rested of testing the candidates, they needed some very strong reason to refuse to adopt them. The new bye-law was therefore adopted.

The Finance Committee was authorized to employ a professional accountant to prepare the statement of accounts for 1872. Fifteen pounds were voted to the Nottingham Chemists' Association, and the Aberdeen Chemists, having made application, were informed that a grant of 10*l.* had been made in 1871, which was still at their disposal.

It having been resolved to hold the anunal *conversazione* on the 21st of May, Mr. Hampson, pursuant to notice, then moved the following resolution:—"That inasmuch as

accordiug to the Regulations published in the Calendar, all students attending the courses of lectures delivered by Professors Redwood and Bentley, are entitled to compete for the prizes and certificates given in those classes, this Council hereby revokes a decision to the contrary passed at the Council of Jauuary 8th ult.," remarking that it was brought forward in order to remove any doubt as to the eligibility of ladies to compete for the prizes referred to. Mr. Saudford seconded the resolution, observing that by their vote of January the Council had placed themselves in a most awkward position, since they had decided that all persons were not eligible, but they did not say who were not to compete for the prizes. The professors might pick out three or four, and leave the competition to them. The motion haviug been opposed by Messrs. Williams, Bottle, and Brown, Mr. Hills said that, having taken a long time to consider whether ladies should compete for the prizes, he was at length convinced that all students should have the same privilege, and he hoped the matter would be settled then and there; and with regard to the prize given by himself, he could only say that if it were decided ladies should not compete, he would give a similar prize which should be restricted to them. After a few remarks from the President urging Mr. Hampson to withdraw his motion, the latter gentleman agreed to do so, remarking that he would take care when he reproduced it that there should be no informality or misunderstanding as to its purport. Mr. Bottle, who also had a motion on the paper in reference to the same subject, stated his willingness to withdraw his also, allowing the whole matter to stand over until after the annual meeting, when no doubt it will be fully ventilated.

Homœopathy.

THE HOMŒOPATHIC PHARMACEUTICAL SOCIETY.

THIS Society has now taken a tour in the provinces. On January 20, a well-attended meeting was held at Birmingham, and the following address was delivered by the president, Mr. J. C. Pottage, of Edinburgh. We are indebted for the report to the *Homœopathic World*:—

"Associated," he said, "for a beneficent purpose—one of the noblest opening upon us on the field of knowledge—I trust we are inspired by the same desire for improvement, and the same hope of success. The science we cultivate finds its highest honours and its greatest glory in alleviating the sorrow and repairing the structure of humanity. We are practical pharmacists. Our aim is to enlarge the domain of pharmacology—the science of the elements of healing. To this intent we should be each prosecuting diligently and laboriously scientific study and research, and endeavouring by experiment to test the value of any discoveries we make. Pharmacy is a science designating the position and value of medicinal drugs. It is also an art—the art of preparing and applying those drugs to the restoration of health or the prevention of disease. In the first regard it may be called a body of principles; in the second it appears as the mode of applying those principles to the alleviation of human suffering. Viewed in this light, how noble is the calling of its professors, and how thoroughly should they apply the Christian doctrine of doing to others as they would be done by. This view of the matter is, unfortunately, so far, antagonistic to the tendencies of our age. Everywhere we find scientific investigators in the domain of pharmaceutics striving to conceal their discoveries with the view of promoting pre-eminently their own pecuniary advantage. Not a journal can we lift, from the ponderous quarterly to the half-penny diurnal, without observing some fresh advertisement of alleged discoveries of nostrums in the healing art which the discoverer wishes to keep to himself as a means of individual profit. That the spirit of trade should have leavened so largely the scientific lump of pharmaceutics cannot but be lamented by every true-hearted and generous man. Doubtless it has not always been so. Certain noble examples there are in the biography of pharmaceutists which show that some have been elevated above this sphere of worldliness, and have beneficently given at once to the world without fee or reward, and often amidst unmitigated abuse (especially from practitioners of the healing art) the results of their discoveries of medicating agents. Listen to the doctrine of Bacon, the great apostle of the inductive philosophy—'Every man is a debtor to his profession, from the which as men do of course seek to receive countenance and profit, so ought they of duty to endeavour themselves, by way of amends, to be a help and ornament.' Look at the example of Scheele, emphatically one of ourselves. Early apprenticed to an apothecary at Gottenburgh, he devoted his leisure from his laborious calling to the study of chemistry, the acquisition of expertness in chemical analysis, and the ascertainment of all the knowledge of his time upon the nature and properties of drugs. Beginning in poverty, in poverty he ended. But why? Because he preferred benefiting his fellow-men to lining his own pockets. According to Professor Crum-Brown, he succeeded during a short life, with limited means of study and experiment, in making a larger number of important discoveries in chemistry than any other chemists before or after him. 'He discovered,' says the professor, 'tartaric acid, citric acid, malic acid, oxalic acid, gallic acid, muric acid, uric acid, prussic acid, and glycerine. In the department of inorganic chemistry he discovered molbydic acid, tungstic acid, arsenic acid, and baryta. He conducted a series of valuable investigations upon fluor spar, black oxide of manganese, and discovered chlorine and (a short time after, but quite independently of, Priestley) oxygen.' This was Titanic work indeed for a man so poor, and aided so little by the scientific magnates of his time, But his achievements are well calculated to inspire us with the conviction that labour in a field of discovery so very fertile and so important to the welfare of our race, will never be thrown away, while the fame this comparatively obscure individual in his own time has now acquired, on one of the brightest pages of history, should teach us that the generous and benevolent spirit will be the greatest gainer in the end. Nor has the necessity for study and experiment been ever so great as now. They are imperative requisites of success. The Legislature has recognised the dignity of the profession by a series of statutes regulating the qualification of aspirants in every department of pharmaceutics. The young, therefore, must study. Nor should their seniors forget, that a moral obligation to do so not less cogent is laid upon them. Even in a pecuniary regard this is true. To get a share of what is necessary for the maintenance of ordinary respectability in our own station, we must keep ourselves abreast of the discoveries of science and the appliances of art."

Then casting a glance at the history of medicine, from the earliest times, he notices the repeated discovery of homœopathy, though it remained for the genius of Hahnemann to estimate this truth at its full value, and give it practical significance. "*Dolor dolorem solvit*," pain is cured by pain, said Hippocrates, and passed on: "Poison is the cure of poison," said Celsus, and Galen testified that "God has associated like with like," but neither saw the great truth before them—only its shadow cast on the sands at their feet. To look upwards, to comprehend, and to grasp the pyramid in its length, and breadth, and height, was left for the great apostle of pharmacy, the ever-glorious Hahnemann.

"In him the rude homœopathy of Paracelsus efflorescd into a great scientific system. His 'Materia Medica' is our peculiar guide, and a legacy of matchless worth to humanity. And in what circumstances was it formed? Nursed in the lap of poverty, oppressed by his parents, who felt it their duty to condemn his pursuit of medicine as a calling, and vilified by the doctors and pharmacists of his time, he nobly fought the good fight, and did not finish his course till he saw in the number and intelligence of his adherents a pledge of the coming conquests of the truths he had announced. I could point you to no brighter example of the benefit of persevering industry and faith. Fain would I dwell upon his achievements, but I know that already you are familiar with them, and feel that you would blame me for keeping you from business which aims directly at the enlargement of his monument by the diffusion of his processes of prevention and cure. Without even specializing another of the great and venerable men who have spent their lives in the field of pharmaceutic research, I must reluctantly pass to a close, leaving the tempting theme for, if possible, a future occasion. But let it not be supposed that discovery is to be measured by anything

that has been accomplished in the past. The stores of nature are interminable, infinite as the great Being by whom it has been created and is sustained. How many elements, simple and compound, yet remain for the investigator to discover, we cannot possibly imagine. There must be many (says the late Dr. Sellar, of Edinburgh) that have been produced in the laboratory which have not yet been isolated so as to exhibit their characteristic properties. Every simple smell belongs to a distinct body. Yet how many smells are familiar to the chemist which cannot be referred to any known substance. Had the axiom been followed of the early periods of chemistry, many bodies, particularly gaseous bodies, would have been isolated ages before they were discovered. The smell of chlorine was familiar in the laboratory at a very early age, being produced every time nitric and muriatic acids were mixed to form *aqua regia*. The peculiar smell of hydrogen when evolved by adding iron filings to dilute sulphuric acid was well known in remote times. Dr. Black tells us that long before hydrogen became known to chemists, they were accustomed, when they had occasion to dissolve iron-filings in dilute sulphuric acid, to amuse themselves by firing this vapour to make it give explosions or burn in different ways. It would indeed be superfluous for any one to enlarge upon the possibilities of scientific discovery. I am quite disposed to adopt the figure of Newton—that in this relation we are like children gathering pebbles on the seashore, while the great ocean of truth lies all unexplored before us. Need I direct your minds to the practical relation of the views I have been urging upon your attention? You know that our pharmacopœia is in progress; that the committee charged with the care of its preparation are anxiously expecting your assistance, and desiring such contributions from each as his experience and industry can supply. Do not disappoint them. Exert your faculties of observation, and record the results of that exertion when these appear to be of scientific worth. All may not be available for use, but trust not even your own judgment in the matter. Suggestions which have been partially elaborated by yourselves may be taken up by others, and brought by them to a point at which they become of scientific value. While labouring, therefore, to complete your own experiments as far as you can, be not discouraged by a conviction of their incompleteness, for they may become germs of great value in the minds of others—even after their growth has ceased in your own. And, to take a broader view, remember that the society will possess strength and usefulness according to the measure of support it receives from its members. I would therefore earnestly impress upon you all the necessity of loyalty to your executive, as well as speculative industry in your vocation. Their constant endeavour, as you well know, is to carry out your wishes on every subject; and they are entitled, on the other hand, not only to your sympathy, but to your forbearance when differences of opinion upon matters of management arise. It is only by union and mutual confidence that our happiness, prosperity, and usefulness as a society can be secure. And although in the conflict with disease and death we occupy a humbler position than the physician, we have still heavy responsibilities to discharge, and an important trust to fulfil. Let us then unite to assist each other in alleviating the difficulties of our common struggle, for in so doing we shall smooth the way for the application of individual effort, so as to extract from it the greatest possible result in the advancement of our chosen calling."

Liquid Black-Lead Polish.—A recent invention consists of black lead, such as is used for polishing stoves and for other uses, combined with turpentine, water, and sugar or saccharine matter, and the proportions which have been found to answer well are, to each pound by weight of black lead, one gill of turpentine, one gill of water, and one ounce of sugar; but these proportions may be varied, and in some cases all the ingredients are not necessary.

Manufacture of Chlorate of Potash.—To manufacture chlorate of potash on a large scale, it has been recommended by W. Hunt to adopt the following method:—Milk of lime is made to trickle down over bricks placed in a tower where it comes in contact with a continuous current of chlorine gas. Chlorate of lime is the chief product, and, by treating this with chloride of potassium, chlorate of potash is formed, which can be purified by crystallization.

Dentistry.

NITROUS OXIDE GAS.

CONSIDERABLE interest has been manifested among dentists and surgeons respecting the recent fatal case at Exeter resulting from administration of nitrous oxide gas as an anæsthetic. Universal regret is felt that a post-mortem examination of the body of the deceased was not ordered by the coroner. In the absence of certain knowledge, much difference of opinion has resulted. The *Lancet* holds that death was directly occasioned by the gas; but excellent authorities question whether this is so certain. Mr. Woodhouse Braine, F.R.C.S., for example, visited Exeter expressly for the purpose of discovering the facts of the case, and he sums up his observations by remarking that "nitrous oxide is not safe in inexperienced hands; but when given by a skilled administrator, I believe it to be the safest anæsthetic in use, and I feel sure that this patient did not die from the effects of the gas." In connection with this subject, several practitioners record some of their experiences with the gas in the *British Journal of Dental Science*. One gentleman (James Richardson, L.D.S.), gives a very graphic account of his own sensations, from which we extract the following:—

"I had to undergo a painful operation. I wished to take the nitrous oxide gas. I had administered it a great number of times, and in hearing the incoherent way in which patients expresed themselves as to the sensations whilst passing into an anæsthetic state, I hoped I might be able to define somewhat the effects of the gas. I say I hoped to be able, for, of course, it is impossible to say what may be the effect of such an action upon any individual until we have experienced it, as I have no doubt different persons are differently affected, and the gas is so interesting and important to us that everything concerning it is worthy of notice. I was well attended. Two Fellows of the Royal College of Surgeons and the anæsthetist—all were standing behind me, so that I could only see the face of the anæsthetist as he leaned over my shoulder with the mouthpiece; the other two were quite hidden from me. I am quite sure of that; I was perfectly composed, and as soon as the pipe was put to my face I formed a resolution steadily to take in the gas. My eyes were open and I looked at the distant wall. I heard them say, 'He takes in the gas freely,' which were the last words I heard distinctly; then I felt my eyes droop and close. Now I seemed to be in a different atmosphere, just as we feel in passing into a tropical house at Kew Gardens—different, but not an unpleasant atmosphere. As to choking we hear so much about, or suffocation, I felt not even the least repugnance. The only effect was, I remember, thinking to myself this is another atmosphere; it seemed sweet and sooty; at the same time my ears were filled with a burring sound, such as I suppose is felt in descending the diving bell, but not so violent. Immediately there danced before me a violet light the size of a large candle, and with a strange unearthly motion it ditbered rising up and higher, and I seemed to be strangely upborne with it. Up, up we went to a very high altitude, the burring sound always present. At last the light stood still, the burring ceased, and my attention was simply fixed on the light. It seemed an immense height we had come. To this stage I seemed to be a nonentity, all my care had been devoted to the sound in my ears and the movement of the light; all the unpleasantness of atmosphere had passed away. Now, however, a change came over me; I became a person—a some one—and I felt as though I could see from every part of me—a sort of cataleptic state; and just as in looking over the cliff at Beechy Head on a calm day you hear conversation on the sea below, though you cannot discern the men in the skiff, so now in a strange muttering undertone I heard a voice as though explaining something about *me* to others. I was sure there were others present, and though explaining something I did not know a single word of what was said, and gradually there crept over me the conviction that I was bound helplessly, and that they were doing something to me. There was a dead calm, the mutter ceased; I could see them looking intently with heads inclined. Simultaneously they raised their heads and the

voice again spoke, but I had no pain, nor had I any pain or feeling when the gash was made; indeed (though I was cut in two places) not even the slightest prick; still, I knew when the tumour was punctured. Although it was awfully tender to the slightest touch in my normal state, I had not the slightest pain until the tumour was violently pressed to force all the blood out; then I was conscious of painful sensation, and I groaned, as I thought, on account of the severity of the pain from squeezing. I felt whatever they were doing to me was now done, and done successfully, and I wanted to express my thankfulness, but I found myself unable to move or speak. Now the burring commenced, and the light, which had hung all the time shining over my head, began to descend, and I with it, and gradually the talking became nearer and more audible, the light went out, and the burring sound died away in the distance, and my eyes opened, and with a heart full of gratitude I stretched out my hand to the gentlemen and cried out lustily—'Thank God! Thank God!' To which they replied—'It is all right;.it is nicely done.' I rejoined—'I know it is; I know all about it.'

"I asked if I had made any groaning when the pressure was applied, and I was surprised to hear that I was not only silent but also motionless all the time. I took four gallons of gas, and from putting on the face-piece to my regaining consciousness was seventy seconds.

"I was not conscious of any sensation of nausea or giddiness, but a decided consciousness of disturbance, sensation of pricking about the cardiac region, and great pain in the tibiæ, like a severe rheumatic pain, which increased, and thongh in bed, it settled into a dead coldness and want of circulation, which was not removed till I took two stiff glasses of stimulants; since that I have had no inconvenience."

Messrs. George Barth and Co., manufacture iron bottles of various capacities containing oxygen gas, compressed, corresponding with the bottles which contain the nitrous oxide gas, so that, in case of the occurrence of any signs of danger, the inhaling apparatus can be at once attached to the oxygen bottle, and the lungs be filled with this gas. It is quite possible that cases might occur where this remedy promptly applied would save the life of a patient.

[The following list has been compiled expresely for the CHEMIST AND DRUGGIST by L. de Fontainemoreau & Co., Patent Agents, 4, South-st., Finsbury, London; 10, Rue de la Fidélité, Paris; and 33, Rue des Minimes, Brussels.]

Provisional Protection for six months has been granted for the following:—

3026. R. France, of Mark-lane. Improvements in stoppers for bottles containing acrated or gaseous liquids. Dated 14th October, 1872.
212. T. F. Henley, of Pimlico. Improvements in the manufacture of meat extract. Dated 18th January, 1873.
214. J. Cox, of Newcastle-on-Tyne, and S. Cox, of Hatcham-road, Surrey. An improved process and apparatus for extracting and recovering oils, fats, and similar substances. Dated 18th January, 1873.
218. C. Farrow, of Great Tower-street. Improvements in stoppering bottles for acrated or gaseous liquids. Dated 18th January, 1873.
230. J. Rohey, of Manchester. A new or improved charcoal to be used for purifying sewage and other foul waters, and for disinfecting and deodorizing purposes. Dated 20th January, 1873.
258. A. Gutenecln, of Gresham House. An improved process for obtaining salt of tin and other products from waste or refuse of of tin plate. Dated 22nd January, 1873.
268. H. Williams, of Wigan, Lancaster. Improvements in the utilization of the waste heat from coke ovens for the manufacture of soda ash, caustic soda, and for other similar purposes. Dated 23rd January, 1873.
274. R. H. Patterson, of Hammersmith. Improvements in the purification of coal gas, and in the production of alkaline sulphides to be employed for such purposes. Dated 23rd January, 1873.
302. J. Coxeter, of Grafton-street East, W C. Improvements in apparatus for administering nitrous oxide gas previous to surgical or dental operations. Dated 25th January, 1873.
316. A. Kolb, of Finsbury, and C. Allsop, of Old Broad-street. Improved means of rendering closets and other places inodorous, and in the arrangements of appliance for the purpose. Dated 27th January, 1873.
324. H. Smith, of Wood-green. Improvements in the apparatus connected with feeding-bottles for infants and for other purposes. Dated 28th January, 1873.
327. W. Wharldale, of Pontefract, York. Improvements in stoppers for bottles. Dated 28th January, 1873.
328. T. J. Smith, of London. Improved processes and furnace, with appliances, for the economical production of baryta. Dated 28th January, 1873.
405. J. H. Johnson, of London. Improvements in the treatment of essential oils with a view to their employment as fuel for heating purposes. Dated 3rd February, 1873.
420. T. W. Dunn and O. Prangley, both of Trowbridge, Wilts. Improvements in extracting animal grease and other impurities from wool. Dated 5th February, 1873.
528. C. W. Harrison, of High Holborn. Improvements in obtaining oxygen. Dated 12th February, 1873.

Letters Patent have been issued for the following:—

2351. G. M. Moore, of Liverpool. Improvements in the process of evaporating or concentrating alkaline liquors in the manufacture of caustic soda, caustic potash, soda ash, and other similar substances, also for heating or boiling and refrigerating solutions in breweries, distilleries, chemical and other manufactories, and in the apparatus employed therefor. Dated 7th August, 1872.
2403. A. M. Clark, of London. A new or improved medicinal compound. Dated 12th August, 1872.
2476. A. Deies, of Plaistow, Essex. A new or improved process of percolation for the purpose of extracting fatty, resinous, and similar matters. Dated 20th August, 1872.
2483. B. Hunt, of London. An improved physiological "button" battery. Dated 21st August, 1872.
2555. J. J. Hicks, of Hatton-garden. Improvements in infants' feeding bottles. Dated 28th August, 1872.
3003. J. Steedman, of Glasgow. Improvements in obtaining acetic acid Dated 11th October, 1872.
3160. W. T. Cooper, of Oxford-street. Improvements in preparing or making up medicated and other effervescing mixtures. Dated 24th October, 1872.
3163. A. Alison, of Elgin-road, Bayswater. Improved means of preserving and curing raw meat, in packing the same, and in apparatus employed therewith. Dated 25th October, 1872.
3587. W. Betts, of Wharf-road, City-road. An improved capsule and machinery for producing the same. Dated 28th November, 1872.
3821. J. L. F. Target, of Portsdown-road. Improved means or apparatus for receiving human excreta, and for distributing deodorizing or disinfecting powder over the same. Dated 17th December, 1872.
3949. J. Higgin, of Manchester, and J. Stenhouse, of Pentonville. Improvements in treating waste liquors containing arsenical or phosphatic compounds, and in obtaining and applying useful products therefrom. Dated 30th December, 1872.

Specifications published during the month:—

Postage 1d. each extra.

1872.

1539. W. Weldon. Manufacture of soda, potash, &c. 4d.
1694 S. Fleming. Stoppers for bottles. 8d.
1699. J. T. Dann. Phosphorus. 8d.
1742 C. A. Faure. Applying electric currents to chemical decompositions, &c. 6d.
1851. V. Van Baerle. Soap. 4d.
1853. E. Abate. Preserving food. 4d.
1878. J. Tourre. Obtaining colouring matters from madder, munjeet, &c. 4d.
1880. W. M. Brown. Apparatus for extracting ammonia. 8d.
1892. G. A. Dorsett. Obtaining anthracene from heavy oils. 4d.
1931. J. S. Christopher and another. Manufacture of hydrogen gas. 4d.
1948. F. J. Cheeshrough. Manufacture of oil and oilcake. 10d.
1984. W. E. Gedge. Preparing phosphorus. 6d.
2033. J Miller. Purifying and decolorizing hydrocarbons. 4d.
2044. W. Weldon. Utilization of dilute chlorine. 4d.
2058. C. D. Ahle. Impregnating air with hydrocarbon vapours, &c. 4d.
2093. J. R. Cashay. Anti-corrosive compound. 4d.
2110. C. Bray. Hair restorer. 4d.
2277. E. P. H. Vaughan. Treating phosphates of lime. 4d.

THE metric system has been legalized by act of Congress but it has not been introduced into New Jersey, where an editor, who read in the cable despatches that "Bazaine has moved twenty kilometers out of Metz," sat down and wrote an editorial, in which he said he was glad to hear that all the kilometers had been removed, and that the innocent people of Metz were no longer endangered by the presence of those horrible engines of war; and then he went on to describe some experiments made with kilometers in the Crimea, in which one of them exploded and blew a frigate out of the water.—*Boston Journal of Chemistry.*

SALE OF CHEMICAL WORKS AT ST. HELENS.—On February 19, the Union Alkali Works, at Pocket-nook, St. Helen's, lately in the occupation of Messrs. Evans and M'Bryde, was offered for sale by public auction, at the Law Association Rooms, Cook-street, Liverpool, by Mr. John White. The bidding commenced at £5,000, which was offered by Mr. Payne, solicitor, and after the amount had reached £14,500 the sale was declared an open one. Ultimately the property was sold to Mr. Sinclair, Garston, for £22,000.

CONFERENCE OF MINERAL WATER MAKERS.

A CONFERENCE of gentlemen engaged in the manufacture of aerated waters, was held at Birmingham, on February 26th, the meeting place being Mr. Hillman's, "The Stores," New-street. The following were present, many of them as delegates from local associations:—Birmingham: Messrs. G. May, C. Robinson, N. Bonham, Court and Hardy, S. Homeyard, N. Jones, S. Kilby, R. Sanders, R. Humphreys, C. Adams, J. Goffe, C. A. Adams, C. Culverhouse, and J. Tuckley; Burton-on-Trent: Mr. Tull; Brierly-hill: Mr. R. S. Simpkiss; West Bromwich: Messrs. G. Roberts, H. Dawes, and T. Kimberley; Wednesbury: Mr. Mander; Longton: Mr. T. Turner (Vice-President of the General Association); Tamworth: Mr. R. Biddle; Burslem: Mr. V. Hodson; Walsall: Mr. A. Simms; Hanley: Messrs. J Williams (President of the General Association), and J. Sheldon; Redditch: Mr. Court; Leicester: Messrs. T. Cooper, S. Cleaver, jun., T. Branston, and G. Read; Derby: Messrs. J. Bingham, Burrow, Pritchard, and E. Hedger; Bedford: Mr. T. Peacock; Lye: Messrs. Hatton, and Bellamy; Manchester: Messrs. W. Bagley and D. Paton; Evesham: Mr. T. New; Cardiff: Mr. T. Elliott; Lincoln: Mr. C. S. Bayne; Gloucester: Messrs T. Talbot and E. Wilesmith; Northampton: Messrs. J. Bingley, J. Manning, and T. Kimberley; Ripon: Mr. T. Stevenson; London: Messrs. H. Codd and F. Barrett; St. Helen's, Messrs. F. J. Brown and J. Beardman; Sheffield: Messrs. W. Rider, J. R. Wheatley, T. H. Waterhouse, and T. Smith; Bristol: Mr. Brook; Leighton Buzzard: Mr. W. Scrivener, Wolverhampton: Mr. Thomas Williams; Aylesbury: Mr. E. North; Buckingham: Mr. R. French; Ampthill: Mr. J. Burgess; Lutterworth: Mr. W. Mawson; Eaton Socon (near St. Neot's): Mr. J. Herbert; Sandbach: Mr. S. Gilbert; Hales Owen: Mr. Cooper.

Mr. J. Goffe (Birmingham) was appointed president, and Mr. J. Williams (Hanley) vice-president of the Conference.

The PRESIDENT said it gave him great pleasure to announce that thirty-four towns were represented, and sixty-two gentlemen were present.

The report of the committee was read by Mr. E. M. ADAMS (Secretary). It referred in strong terms to the inferior qualities of aerated waters supplied by ignorant and unscrupulous persons, who also were said to engage incompetent and badly paid men and boys, so as to make money at all risks. The report then went on to comment on the serious "bottle question." It was stated as a fact, that some of the large manufacturers found at the end of a season a deficiency of 600 to 1,400 gross of bottles in their stock. A considerable proportion of these were suspected to reach the marine store dealer's establishment. It was urged that united measures should be taken by the trade to establish a system which, while it guaranteed them from loss, would, at the same time, place the business on a more respectable footing. The committee believed that deficiencies of bottles should always be charged. The report continued:—The committee beg to state that since the passing of the new Licensing Act in this district, the losses in bottles have been much greater than formerly, owing to the demand made by the public for vessels to convey liquors to their houses at night for private drinking. It is with pleasure the committee bear testimony to the ready and generous manner in which a very large majority of the licensed victuallers and public-house trade generally have assented to the new condition of things as instituted, and carried out in Birmingham and the Potteries, many of whom express surprise that so important a movement has not been agitated before. Since bottles have been charged, it is wonderful to note with what scrupulous care the bottles are packed or placed in safe positions to prevent their being lost, stolen, or destroyed. And when the lads from surrounding factories make their appearance at the bars of public-houses, at the usual hours for refreshments for workmen, it is quite cheering to hear them made acquainted with the fact that no more "pop" bottles can be sent out unless they are paid for. "Pop" bottles, as they are called, have been looked upon by the public as common property for the benefit of all; but you who know that in order to secure them for your use, you have to pay little short of 2s. per dozen, think it no joke that such an erroneous view should prevail. Your bottles are scattered in all directions, and very rarely will a household consider itself efficiently furnished unless there are several bottles for use either as supports for candles or to form a portion of useful, if not elegant, ornament to a lady's toilet table in the way of a hair-oil bottle; or to convey turpentine, naphtha, and other unsavoury fluids, and in some cases to play at the game of "Aunt Sally," is rather too much to bear, and which misappropriations you are here to-day to remedy. There are persons in this district who have not joined our association, and who do not charge for their bottles, in the hope of securing a flourishing trade from persons who are very careful of their own property, but trouble themselves very little in caring for other people's. Such persons are committing a suicidal act; for whilst the association bottles are preserved from falling into the hands of the marine-store dealer, the non-association bottles freely come within their grasp, and this must end in the ruin of persons carrying on such a loose way of trading. A uniform rate of prices cannot be carried out, nationally at least, for the present, as much depends on the demand and the means of carriage; but in order to render to each manufacturer a fair living profit, he must learn to keep his property secure, for in the failure of that lies the greatest evil of all. Many inquiries have been made by persons from various parts of the country how and by what means we can consolidate the position of our associations. The mode adopted by the Birmingham and Hanley associations is to secure the signatures of members to bond notes in the sums of £25 and £20 respectively, for the due observance of the rules. Having received advice from an eminent legal authority, the committee discover that by the adoption of such a course the security of their position is as true, and likely to be as permanent as any other mode of action that might be carried out. The committee find that these associations of masters are not in any way affected by the law regulating trades unions, but that their conduct is governed by the rules and principles of the common law. Large numbers of letters have been received from all parts of the country, in which the most perfect accord with your objects is expressed, with promises to join the movement, and share the expenses, which have been rather heavy. Though it happens that this meeting, the first of its kind, takes place in Birmingham, it by no means follows that the local committee appointed to make arrangements for it have any desire to monopolize any power or in any way dictate to the gentlemen present. They feel themselves amply repaid for their trouble by the hearty response you have made to their call, and now resign their power and authority into your hands.

The report was unanimously adopted.

The PRESIDENT then moved:—"That this meeting is of opinion that the present condition of the mineral water trade is one demanding the most serious consideration, arising from the unprincipled means adopted by ignorant persons embarking in the business, in manufacturing impure waters, and selling them at ruinous prices, and that such persons are deserving the most unqualified censure, and that every legitimate means be employed to secure public support to those firms who carry out a honest and legitimate trade."

Mr. BAYLEY (Manchester) seconded the resolution.

The resolution was carried unanimously.

Mr. T. SMITH (York) proposed the next resolution, which was as follows:—"That in the opinion of this meeting, the only safe and correct mode of letting out bottles to customers, is by demanding payment in all cases for deficiencies in returns, and that the provisions of the 'Merchandise Trade Marks Act, 1862,' be put into force in order to obtain convictions against persons using bottles on which appear names, or trade marks of owners."

Mr. KIDGER (Derby) seconded the resolution. He characterized the "Merchandise Trade Marks Act, 1862," as being of an excellent nature. It had been said that it did not matter about their having the bottles back so long as they were paid for them. He said it did matter. He had his own bottles, and although when he sent them out he charged for them, he had an interest in them still, for they were his own, and bore his trade mark. Every maker should have his own bottles—(hear, hear). He brought this matter before a meeting of the trade at Leicester a few days ago, and he might say that it was agreed that no maker should fill any other bottles than his own unless they were plain

ones, bearing no names—(hear, hear). He urged the importance of the members of the trade studying the Merchandise Trade Marks Act, and endeavouring to see that the measure was carried out.

Mr. Codd (London), in supporting the resolution, said a meeting of the trade was held in London on Tuesday, and it was unanimously agreed to charge 2s. a dozen for all bottles sent out. After the resolution was carried, the meeting was adjourned, a question having arisen as to whether the bottles, after they were sold for 2s., still remained the property of the individual whose name was impressed upon the bottles. They had in London adopted a plan of placing upon every bottle, or inserting in the label, a statement to the effect that the bottle is the property of the maker of the water contained in the bottle. It had been decided by eminent counsel that although a label might be washed off a bottle, it would still be the property of the maker, and he could claim it from any marine-store dealer who might get possession of it. If a marine-store dealer purchased bottles from publicans for 2s. or 2s. 6d., not only could he be prosecuted, but the publican also could be prosecuted, as it was an offence against the law—(applause).

Mr. Bingley (Northampton) was of opinion that if a man bought his bottles and kept them in his cellar twenty years, he could keep them without being liable to a prosecution. If he filled the bottles with a better kind of water, then the owner of the bottle, if his name were stamped on the bottle, would get the credit, but if he made a bad article then he would get the benefit of a respectable firm's reputation. This was a wrong that ought to be righted.

The Chairman urged the desirability of customers being required to pay for the bottles they received. He thought the rule in London was that all bottles should be paid for by customers.

Mr. Codd said it was the custom to charge for bottles when the price was about 12s. 6d. a gross. The makers in London were now agitating to increase the price from 1s. to 2s.

Mr. Talbot (Gloucester) said he had received letters from about twelve gentlemen living at Cheltenham, Stroud, and other places, expressing sympathy with the object of the conference. He had made arrangements for the meeting of the trade in order that something might be done for the benefit of the trade.

Mr. Williams (Hanley) thought it would be very easy for any maker if he received a bottle with another maker's name upon it to return it to the owner. This had been the practice in the neighbourhood of Hanley, and the rule worked very harmoniously. It would be well to adopt that plan throughout the kingdom. He was of opinion that when a maker had made a charge for bottles they were no longer his property. They could prevent any other maker using bottles which bore the name of another maker; but a publican could put oil or candles into the bottles if he liked, and they could not prevent him doing so.

Mr. Bingham (Derby) said the association he represented had passed a resolution to the effect that no member should fill the bottles of another maker, or misappropriate them; but that the bottles should be forwarded to the rightful owner, who should give other bottles in exchange. In case of a dispute, the matter should be submitted to the executive, whose decision should be final.

Mr. Adams wished to explain the object of the resolution. There were people in this town who harassed the members of the association by selling mineral waters under price, and they were taking oustomers from some of the best makers. Those makers were in the habit of buying bottles from marine store dealers for 1s. or 10d. a dozen, whilst the makers of the real article had to give 1s. 9d. per dozen, and pay the carriage. What was desired was that those men outside the association should be proceeded against after the Conference, and be made to cease from acting in a way so injurious to the trade. There were gentlemen in Birmingham, who never had a trade-mark, but who had always bought plain bottles. How was it possible for them to claim bottles?

Mr. Whateley (Sheffield) said they had bottles bearing names of makers in all parts of the kingdom in Sheffield, but they had determined not to fill any bottles except plain ones in future. They had also arranged for a mutual exchange of bottles in Sheffield and the neighbourhood.

The resolution was carried unanimously.

Mr. Whateley then moved, "That there be a national organisation formed, with an executive committee of twelve persons, in whom shall be invested all functions of general government, and who shall serve in office for one year, and be eligible for re-election at the expiration of their term of office."

Mr. Councillor Stevenson (Ripon) seconded the motion, and it was supported by Mr. Cooper (Leicester).

A long discussion followed, in the course of which Mr. Adams urged the importance of a national association being formed. A suggestion was made that three associations should be formed—one in the North, one in the Midlands, and another in some other district. Several delegates argued that it would be unwise to divide the trade. There must be one central organization, and then the objects which they all had in view would be ultimately attained.

The resolution was carried.

Mr. Williams (Hanley) moved:—"That each existing association pay 15 per cent. of their income towards defraying the expenses of the National Association, and that persons not belonging to any local organization, pay a fee of £1 1s. subscription as the term of membership."

The motion was seconded, and carried unanimously.

The Conference then adjourned for dinner. A most excellent repast was served up in capital style by Mr. Hillman. Among those present in addition to the delegates, were Mr. Councillor John Clements, and Mr. H. C. Edwards, Secretary of the Licensed Victuallers' Association.

After dinner the Conference proceeded to elect gentlemen to serve on the Executive Committee. The following were elected:—Messrs. Goffe, Homeyard, and Miay (Birmingham); Brooke (Bristol); Williams (Wolverhampton); Simms (Walsall); Pritchard and Burrows (Derby); Ford (Nottingham); Cooper (Leicester); Elliott (Cardiff); Williams (Hanley); Kimberley (West Bromwich); Codd (London); Walker (Coventry); Bingley (Northampton); and Rhodes (Brierly-hill).

This concluded the business of the Conference.

LEAD AND ITS PREPARATIONS.

BY THOMAS WILLIAMS, F.C.S.

Abstract of a Paper read at the Liverpool Chemists' Association, January 16th, 1873.

LEAD mining is actively carried on all over the world. Amongst the noted mines of Great Britain are those of Cumberland, Northumberland, Durham, Derbyshire, Flintshire, Cornwall, and other places. Of lead ores too, there is a good variety, but the most abundant is galena or sulphide of lead. The specimen before you is of unusual beauty and perfection. The other specimens are sulphide of lead and antimony (which is found in various equivalent proportions), anglesite, or sulphate of lead, phosphate, arseniate, and selenide of lead. These latter, however, are quite insignificant in quantity, and we shall therefore only look to the galena. Galena is considered by geologists to have been deposited in the lodes where it is found through the agency of water. Here is a fine specimen formed artificially in the clay crucible from an intimate mixture of litharge and sulphur (in equivalent proportion), which was subjected to a high temperature, and allowed to cool slowly for several hours. A layer of borax must be placed over the mixture to preclude the air. It is of frequent occurrence that crystallized calc spar is found in the lodes, which beyond doubt has been deposited from an aqueous solution, which once contained sufficient excess of carbonic acid to hold the spar in solution. Working through the calc spar, we come to blende (zinc sulphide), which is almost always indicative that galena is hard by.

Galena, before it is brought to smelting, undergoes various processes of "dressing" at the mine, to free it from associated foreign substances, and made of about an average richness of 78 per cent. of lead. The quality of galena is variously determined, but the most common mode of assay practised is done in wrought iron crucibles, or often dishes without addition of any fluxes. This sort of assay, capable of yielding some 82 per cent. of lead, if the ore is

approaching purity. In the assay the sulphur of the galena combines with iron of the crucible, forming sulphide of iron, and the lead is obtained in the metallic state.

Now that we enter upon the smelting, I may remark that this Flintshire furnace, as it is called, is not confined to the Flintshire works, but is adopted in many smelting districts in the United Kingdom and abroad.

The galena, which is seldom coarser than would pass through a quarter-inch sieve, is carried into the hopper, which is situated on the arch of the furnace; and when the latter is in condition to receive it, a slide is withdrawn from the bottom of the hopper, and the charge, which weighs twenty-one cwts., drops through upon the bed of the furnace, where it is spread evenly over by appropriate iron tools.

The processes which it undergoes in its smelting are conveniently described in four stages:—(*a*) When the charge has been brought in, and spread over the bed of the furnace, it undergoes two hours' roasting, during which period it is frequently stirred, the doors of the furnace being left open, and the temperature maintained at dull redness. (*b*) The change under the first stage has been the conversion, by the combined action of atmospheric oxygen, of part of the galena into sulphate of lead; and now the doors of the furnace are put up, and the temperature considerably augmented, whereupon the sulphate and sulphide of lead re-act upon one another, and the charge is converted for the most part into metallic lead, and sulphurous acid gas: $PbSO_4 + PbS = Pb_2 + 2SO_2$. (*c*) The condition of the charge attained by the second stage has been its liquefaction or fusion. Now the operator in front of the furnace throws upon the molten mass a quantity of slaked lime, and works them up together by means of an iron paddle-shaped tool. This "sets" or thickens the slag, which consists of the various extraneous matters originally in the ore, and some unreduced galena, and it is then, by means of this paddle, thrown or "set up" towards the back of the furnace, the workman at that side assisting in the operations with an iron rake. Now follows a second calcination for a short period, and again the fire is urged to run the mass down. (*d*) More lime is thrown upon the melted charge, and the solidified slag again "set up" on the slope to drain off its lead. The reduced lead is then tapped out of the well, and is received in the cast-iron pot which is sunk in the floor at the front of the furnace immediately beneath. Lastly, the grey slag is raked as a pasty mass, on to the floor at the back of the furnace, and this finishes the operation upon one charge. The time occupied throughout is about five hours. The yield of lead averages 13 cwts., and the consumption of coal is about equal to that produce. A great number of contrivances, at immense cost, have been tried for an effective means of preventing loss of lead fume, that escapes through the stacks; but it would seem that long flues, which in several districts are extended for miles in length, act best for its recovery.

The lead fume collected is reduced in the same furnace as the galena, and the grey slag is worked up in a blast furnace.

Now galena invariably contains silver (as sulphide), and in smelting it is reduced along with the lead. And since their separation is profitably conducted, and immediately connected with lead smelting, I shall describe briefly the Pattinson process of desilverization, which is the method almost exclusively adopted in this kingdom, and very generally abroad. This process depends upon the remarkable fact that when a mass of molten argentiferous lead is cooled very gradually, the lead forms itself into crystals, which are destitute of silver. If these crystals are prevented, through stirring with appropriate tools, from cohering together, the still-remaining portion of lead is found to hold the whole of the silver.

This invaluable discovery was made by the world-renowned Mr. Pattinson, of Cumberland, in the year 1829, and patented by him in 1833. The working arrangements adopted in this crystallization process, consist of a series of strong hemispherical cast-iron pots, which are mounted in brickwork with fire-grates underneath, and of a capacity to hold about 8 tons of lead, which must not reach the top within a few inches. Whilst the mass of lead in the pot is cooling, it is continually stirred, so that the crystals of lead which form and sink may not cohere; and when a certain stage is reached, a perforated iron ladle, with long handle, is used to raise the crystals, allowing them time to drain. They are then transferred to a second pot until the contents of the first are reduced about three-fourths. The contents of the second pot are recrystallized after the manner of the first, and the crystals from it (which are poorer in silver after each operation) are transferred into a third pot, and so on until it becomes what is called "poor lead," containing but few dwts. of silver in the ton. It is then cast into pigs, and is soft, marketable lead. The richer fluid portion of No. 3 pot is raised over into No. 2, and contents of latter recrystallized, the crystallized portion is returned back again to No. 3, and the now fluid portion of No. 2 raised into No. 1, and so on, until the latter on the other hand becomes "rich lead," containing generally 300 ounces of silver in the ton, when it is removed to undergo a different process altogether, called refining, or cupellation. By this is meant the final separation of lead from the silver. This object is effected practically by exposing the molten rich alloy at a high temperature upon a bed, generally called cupel or test, of bone asb, to a current of air generated by machinery. Under these conditions, the oxygen of the air which is blown in combines with the lead to form litharge, which is a very fusible substance, and is made to run, by small channels formed on sides of the test, into small cast-iron pots that are placed on wheels to facilitate their removal from the furnace as they get filled. In this manner a very large quantity of lead can be oxidized upon but a small surface and shallow cupel. When it is desirable to stop the operation the temperature is increased to clear the silver of the last traces of lead. It may be remarked that with the exception of the finishing portion, and which is kept separate, the lytharge contains exceedingly little silver. The art of refining was practised in the earliest times, and is recorded in sacred history in all the conditions essential to its accomplishment. Prior to the invention of crystallization by Mr. Pattinson, argentiferous lead was always sent direct to the cupellation process, thereby, at much greater cost, prolonging the operation considerably. In those times they could not attempt to refine any lead containing less than 8 ozs. of silver to the ton, whilst that richness may now be taken as high prospects for the preliminary crystallization process.

Turning over to the statistics of the lead trade during latter years, we find that in the United Kingdom alone, the production of lead is something like an average of 96,000 tons per annum. This amount of ore yields about 72,700 tons of metallic lead, whilst the silver again obtained from above quantity averages 792,700 ounces.

To Cement Wood to Glass.—Make a solution of isinglass in acetic acid so thick as to be solid when cold. Heat this and apply it. This has been tested by fastening the end of a glass tube to pine wood; the wood gave way sooner than the cement.

A Dudley Surgeon Poisoned by Mistake.—On Sunday night, March 2, Mr. Meredith, one of the Dudley Union surgeons, at Netherton, died from laudanum poisoning. He was in his sitting-room, and suddenly called for assistance. His son, who is also a surgeon, found symptoms of poisoning, and after sending for other medical aid, applied the usual remedies, but without avail. There is no reason to suppose that the deceased committed suicide. Mr. Meredith was in the habit, it is said, of carrying a half-a-pint bottle of brandy and water about with him, and as the bottle he drank from was half-a-pint, the probability is that he took up the wrong bottle by mistake.

Protoxide of Hydrogen.—The laws of Wilmington, N. C., make it a crime to sell nitro-glycerine or other explosive compounds within the city limits, and a certain wise but malignant individual, having a grudge against one Smith, informed the authorities that the said Smith had congealed *protoxide of hydrogen* stored in the rear of his house. The officers at once invaded Smith's castle, overcame his resistance by force, and discovered an ice-house packed full of the congealed *protoxide of hydrogen*, but concluded that it was not explosive. Smith has brought suit against the city for the damage to his person and property, and the policemen are studying chemistry.—*Boston Journal of Chemistry.*

GUARANA.

Abstract of a Paper read by Mr. Joseph Hallawell *at the Liverpool Chemists' Association.*

GUARANA has been for a long time a medicinal agent extensively used by the Indians of the South American continent. With them it is at the same time an article of diet and a medicine—the seeds of the wild plant being used for the latter purpose, and those of the cultivated plant being reserved for the preparation of medicinal guarana. It was first introduced by the Indians, in the periodical visits made to the civilized parts of Brazil, and, being found valuable, was after a time purchased and used by the pharmacists, subsequently finding a place in the pharmacopœia used in Brazil. Until a very few years ago, its scarcity and high price checked its gradual introduction into Europe, and induced sophistications. Of late years the supply has greatly increased, as much as thirty tons having been exported in one year.

Paullinia sorbolis, the plant from the seeds of which guarana is prepared, grows in a wild state to a height of from eleven to thirteen yards, but the cultivated plant is trailed as near as possible to the ground. It produces fruit in three years after planting, flowers in July, and the fruit is ripe in November. By careful cultivation, each stem will produce 8lb. to 10lb. of seed annually, and the plant will live for forty years. The guarana is prepared as follows. The Indians remove the seeds from the capsules in November, and dry in the sun's rays. After a slight roasting, they are reduced to a fine powder, which is slightly moistened, and exposed to night dew. In this way a paste is formed, which is hardened by introduction of fragments of seeds. This paste is rolled into cylinders, forming the commercial guarana.

The mass, when formed into these cylinders, is so hard that it requires to be broken by an axe. This hardness conduces to its preservation unchanged for a long time. There are many different qualities imported, some of a very inferior kind, having no medicinal value whatever. The powder, when pure, should be of a bright brown or cinnamon colour; that of the sophisticated guarana being of a whitish-grey. Heated slightly in the open air, it has the smell and taste of roasted coffee. In the mass, guarana has the bitter, styptic taste of the cocoa berry; softening in water, it gives to the liquid a brownish colour, while the part remaining undissolved loses little by little all its colour.

Its principal value as a therapeutic agent has been found in its relieving nervous headaches, but in Brazil it is used as a remedy for the diarrhœa and dysentery so prevalent in that country; it is also extensively used by the natives as a tonic and stomachic.

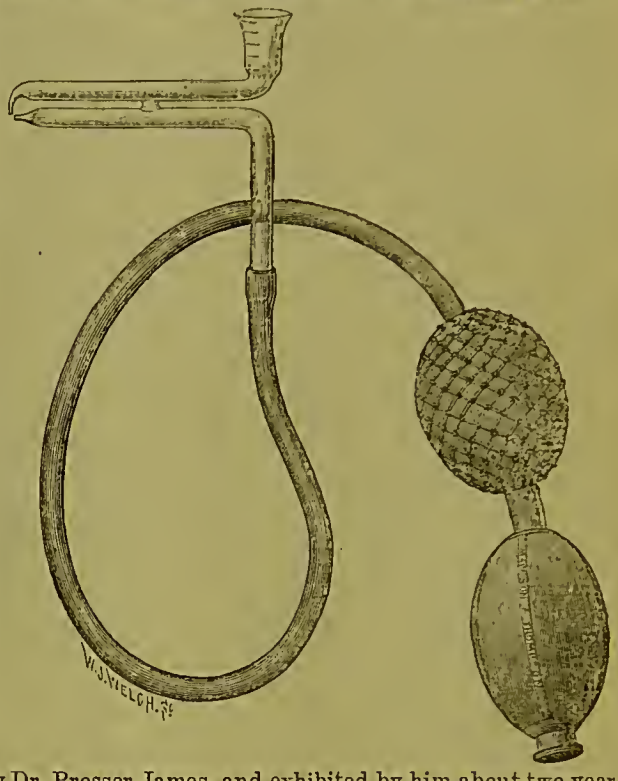
It certainly merits a more extensive trial in this country: the result would be its general adoption as a remedy for certain forms of stomachic derangement. But great care is needed in these trials, to secure a pure quality. The doses should also be somewhat increased if it fails at first. From thirty to forty grains of the pure powder may be given for a dose, and repeated every two hours if required.

Specimens of seeds, and of several specimens of guarana, including very pure and average and very inferior qualities, were shown, which were procured from Messrs. Rigaud and Leconte, of Paris, who prepare for use an alcoholic extract in powder, which was also exhibited.

Imitation Frost Crystals.—A very pretty winter ornament for a parlour table can be prepared as follows—Dissolve 456 grains of nitrate of lead in six fluid ounces of water. If the solution is turbid, filter through paper. Place the solution on the table where it is intended to remain, and drop into it 200 grains of sal-ammoniac in long fibrous crystals. Small crystals of chloride of lead form and ascend through the denser liquid, presenting the appearance of an *ascending* snow-storm. When the lead is all precipitated, the crystals of chloride of lead begin to descend as a genuine miniature snow-storm, forming grotesque masses resembling a winter's landscape. If the vessel containing the crystals be not disturbed, it often preserves its beauty for a week or two.—*Boston Journal of Chemistry.*

DR. PROSSER JAMES' SPRAY PRODUCER.

WE have much pleasure in calling attention to a new and very efficient spray producer manufactured by Messrs. Maw, Son, and Thompson. It was designed originally



by Dr. Prosser James, and exhibited by him about two years ago at the Medical Society of London, where it met with great approval. The accompanying wood-cut will show the construction of the apparatus, which is extremely simple. The liquid to be atomized is placed in the little glass cup, and on pressing the two bellows alternately with the hands, is delivered at the extremity of the tube in a very fine spray. Being made of glass, the tubes can be replaced in case of accident for a mere trifle, and we understand that Messrs. Maw are prepared to supply them separately. It is extremely gratifying to learn that Dr. Prosser James refuses to allow his atomiser to be patented, his only object being to place a cheap and efficient article within the reach of even the poorest patient. Our readers will do well to introduce this very cheap and effective instrument to the notice of their customers.

SULPHINE.

We have a very decided leaning towards the "sulphur cure," and if there is any truth at all in the germ theory of disease, there can be, as it seems to us, no question about the extreme usefulness of sulphurous acid as a medicine in many cases. "Sulphine" is well named, and presents this product in a convenient form. It is prepared by Mossrs. William Bailey and Son, Wolverhampton, and if they push it well throughout the country, they will do good both for themselves and others. They have paid special attention for some years past to the sulphur compounds, and the purity of this article is guaranteed by their name. It is sent out in saleable style, and a well-written pamphlet is also published by them, describing its use in cases of indigestion and other diseases.

HISTORICAL CHEMISTS.

No. 1. John Bell.

THE founder of "the shop in Oxford-street" has a fair claim to rank first in pharmaceutical history. The memoir of his life was published first in the *Pharmaceutical Journal* a great many years ago, and Mr. Hills has lately reprinted it. The story will be new to most of our readers however, and to the busy, smart, enterprising youths of the present day, John Bell's conscientious notions and rigid inflexibility of principle will have the charm of novelty, or rather of antiquity. There seems to have been in his character a diffidence amounting to weakness, and with such a defect now, we candidly believe it would be impossible to make a great success in business without the intervention of a miracle. But the sterling integrity and unwavering perseverance of the man are qualities which we admire with all our heart, and give to the sketch of his life a moral brightness which his success cannot enhance, and which failure could not have dimmed.

John Bell was the second son of Jacob Bell, who was a mastmaker, in partnership with his brother-in-law, James Sheppard, at Wapping Wall. Prior to the American war their business flourished, but when the war commenced they became uneasy at furnishing materials for a purpose so much at variance with their principles as members of the Society of Friends. Jacob Bell withdrew from the concern, and became a hosier, in which business he was less successful.

John Bell, the second son, was born on Fish Street Hill, on the 4th of December, 1774, and received his early education under Thomas Coar, who was a good classical scholar, and kept a school at Tottenham. On leaving school, he was apprenticed to Frederick Smith, of 29, Haymarket, Chemist, as a preliminary step to his education as a Physician, for which profession his father intended him. During his apprenticeship he attended the lectures of Dr. Pearson on Chemistry, Materia Medica, and the practice of Physic, and subsequently Dr. Hooper's lectures, which were delivered in Blenheim Street, on the premises of Joshua Brookes, the Surgeon. He was diligent in attending the lectures, some of which were delivered at seven o'clock in the morning, and in other respects exerted himself in gaining information, although his opportunities were very limited. During his apprenticeship, his allowance of pocket-money was only one shilling a week, and this he expended chiefly in books and chemical apparatus, of course on a very small scale.

He soon abandoned the idea of following the medical profession, for which he considered himself not fitted on account of his natural diffidence and nervous temperament. On his first attempt at bleeding a patient his hand trembled, and he was so nervous that he with difficulty accomplished it, and did not attempt the operation a second time. He also objected to the medical profession on the ground that it would (to use his own expression) "expose him too much to the temptations of the world," during his probation as a medical student, as well as in the ordinary requirements of medical practice. The reduced circumstances of his father afforded an additional argument in favour of another avocation less expensive in its commencement.

He therefore decided upon commencing business in a small way as a chemist and druggist, and after the expiration of his apprenticeship, he continued to serve for some months as an assistant, while looking out for an opening, the accommodation being considered an equivalent for his services. He afterwards received a small salary.

The fragment of a journal which he kept in the year 1797, is characteristic of the peculiar constitution of his mind, which was very unlike that of most young men of his age. His chief desire appeared to be to escape "the snares and temptations of the world," and to adhere strictly to the path of duty. He was conscious of a natural irritability of temper, which it was his constant endeavour to subdue, although he frequently alludes to the extreme difficulty in attaining his object, and his occasional despondency and contrition almost amounted to a state of religious melancholy. One incident will serve to show the extent of these conscientious feelings: Finding money unaccounted for in the till, he entered the amount as for goods sold in making up his account to make it balance, instead of acknowledging his forgetfulness. On reflection this occasioned so much "distress and trouble," that it was several days before he could perform his duties calmly and with any degree of satisfaction, so great was his uneasiness at the idea of the occurrence of a mistake in the money.

On the 17th of August, he observed a shop to let in Oxford Street, to which he alludes as follows:—

"Observed, on my return home from seeing a poor woman, a shop to let, which seems a little to strike me, though with a fear lest I should err in judgment. It would truly be considered a peculiar favour to be rightly directed so as to have peace and confidence afterwards, as with a superior licence in a matter of so great importance in knowing the right place. This must all be left, as I have never wanted yet, and if I may be so favoured as to keep my place, however unworthy, will not an all-wise bountiful Providence care for me? How is it with the sparrows and the lilies? though truly can I have so great a right as they? since they have never sinned like me."

On several other occasions he alludes to his doubts and misgivings respecting "that shop in Oxford Street," which he seemed unable to abandon, and yet had not resolution or confidence to come to a decision. One ground of hesitation arose from delicacy of feeling towards his master, to whom he was desirous of acting with strict honour, and avoiding the possibility of any jealousy or distrust by commencing business too near the old shop. His employer, however, not only gave him full permission, but encouraged him to proceed; and his father ultimately settled the question by taking the shop for him, and lent him £400 to prepare and stock it. The fitting-up order for drugs was executed by Messrs. Fynmore and Palmer, on the 24th of November, 1798, and amounted to £86 13s. 9½d.

There was at that time only one chemist's shop in Oxford-street, which was situated at the west corner of Argyll-street, now the Green Man and Still. This establishment was celebrated for the fabrication of cheap powders, which were ground and prepared in a mill at the top of the house, and the character of the business in other respects was not of a high order. The custom of adulterating medicines was so prevalent that even at houses considered above the average in respectability, various practices were carried on, which occasioned much uneasiness to the subject of this memoir. He has frequently been heard to mention the fact that during his apprenticeship, he was employed to pound many hundred-weights of glauber salts, which were sold as nitre for horses. Red precipitate was mixed with red lead, and there was a small room almost exclusively used for "russifying" rhubarb. This process consisted in cutting and filing East Indian, to imitate Turkey rhubarb. In reference to horse powders, it was customary to keep two kinds, the "genuine" and the "compound," which latter were prepared by sending 14lbs. of the article to the mill, and receiving in return 28lbs., sometimes even a larger quantity, no questions being asked as to the mode in which the quantity had been increased. These and other similar practices being too general to excite attention, they were not entirely absent even in the establishment of a man who was in other respects remarkably conscientious and scrupulous, which the following fact will serve to show:—Before embarking in business as a Chemist, Frederick Smith held for many years a lucrative situation in the Post Office. His salary had been gradually raised until it amounted to nearly £1,000 a year, and was likely to be further advanced. It happened, however, that he was sometimes called upon to give evidence in cases of robbery, which was at that time a capital offence. Becoming impressed with a religious scruple against taking an oath, and also against capital punishments, this duty was a source of great uneasiness, which increased to such a degree that he at length declined to comply when called upon to give evidence. By this means he lost his situation in the year 1783, and finding the business for sale in the Haymarket, he became a chemist and druggist. Not having been educated to the business, he carried it on for some time in the same manner in which it had been conducted by his predecessor. When he became more acquainted with the business, he gradually discontinued these practices, and was afterwards very particular in the quality of his drugs. The circumstance serves to illustrate the impropriety of persons embarking in a business of

that kind, without understanding the fundamental principles on which it should be conducted. John Bell, having during his apprenticeship seriously considered this subject, resolved that, as soon as he became a free agent in the management of a business, he would adopt a different principle, selling the best medicines he could procure. In this experiment he occasionally had some misgivings from doubts arising whether it would be possible to carry out to the full extent what he considered to be the principles of strict honesty. He was however, encouraged by his younger brother, Jacob Bell, who assisted him at the commencement, and who maintained without flinching that it was not only possible, but expedient as a matter of policy, to defy competition in price, and make he quality of the medicines the primary consideration.

Towards the end of 1798, John Bell opened his shop. On the first day his receipts amounted to ten shillings, and he lost half-a-guinea by the following accident:—A customer who came in for some trifling article, wanted change for half-a-guinea. This was rather a large sum to raise so soon after opening the shop, and Mr. Bell had occasion to search his pockets, as well as a drawer in the counting-house, in order to find the amount. The customer observing the difficulty, said it was of no consequence, as he had some change. Just at this moment the amount of change was collected and laid on the counter, on which he said, that as it was there he would take it. But he had already put the half-guinea in his pocket, and taking up the change went off with both, the young chemist being so bewildered that he was not aware of the fact until several minutes afterwards. This mishap discouraged him so much that he despaired of success altogether, considering it as a proof of his incapacity to "cope with the world," or manage a business on his own account.

So complete was his despondency at the supposed hopelessness of his case that he did not think it worth while to light the lamps in the evening. A neighbour who had taken a kind interest in his proceedings, observing the shop dark, came in to inquire the reason, and on being informed, used all his endeavours to dispel these gloomy ideas, and declared that he would light the lamps himself rather than allow his friend to be overcome by such a trifle. This was all to no purpose, and in the morning the young chemist went to his uncle Sheppard, who had acted like a second father to him on previous occasions, and informed him of the determination at which he had arrived—to dispose of the shop as it stood, before he had made his position still worse by becoming involved in debt. He mentioned, as an additional source of discouragement, that he had been so cramped for want of capital that he had not been able to complete the arrangements of the shop to his satisfaction, and that it would cost at least £100 to remove a partition, and add what was requisite for the convenience of business. He thought, as the situation was good, that a purchaser might be found having the capital required, who would take the concern off his hands, and thus enable him to pay 20s. in the pound, and said he would rather continue in the capacity of an assistant all his life than continue in business at the risk of his creditors, with the prospect which stared him in the face of becoming a defaulter.

His uncle, as he had previously done, encouraged him by all means to proceed—endeavoured to convince him that the evils which he apprehended were imaginary—assured him that he had a good prospect of success if he would only persevere, and insisted on his taking a loan of £100 to defray the expenses of the desired additions to his shop. By these substantial and irresistible arguments, he was induced to give the business another trial, and his uncle from time to time called upon him, giving him that encouragement of which he seemed so much in need. He observed the most rigid economy in his manner of living, let the house to lodgers—except the attics, which he retained as bedrooms, and the back kitchen, where he took his meals. Throughout the winter he did not treat himself to a fire in the counting-house; except on the coldest days, and then only in the evening.

His returns, in the first instance, were extremely small, sometimes not more than three or four shillings a day; but he was assiduous in his attention to business, being constantly behind the counter, and his brother, although young, soon became a valuable auxiliary. He did not profess to be an operative or analytical chemist, but confined his attention to the retail and dispensing business, and adopted certain fixed principles to which he rigidly adhered, as being at the same time in accordance with his conscientious feelings, and calculated to gain the confidence of the public.

At the end of the first year he made a careful investigation of his accounts, in which he was assisted by his uncle Sheppard, and found that he had lost money, being in a worse position than he was at the commencement. It became a serious question whether it was prudent to continue the business, but having calculated that his loss during the year scarcely exceeded the amount of his housekeeping expenses, and being encouraged by his friends to proceed, he followed this advice.

During the second year the business improved considerably, and soon afterwards he was enabled to pay off the capital which he had borrowed from his father and uncle. In the winter of 1800 he took Thomas Zachary as an apprentice, who subsequently became one of his partners.

In the year 1802, John Bell married the eldest daughter of Frederick Smith, his late master. He continued for some years to devote unremitted personal attention to his business, which increased beyond his expectations. He never solicited business, or courted the patronage of the profession, and was not ambitious of extending his connection among the higher circles of society. To the poor he was always attentive, and it was a favourite remark with him that he often had "twelve customers for a shilling." Without any attempt on his part to encourage counter practice, he was frequently applied to by the poor for advice in trifling cases, and much against his inclination, he acquired some little repute as a doctor among that class of customers. This, however, was rather in the way of charity than regular business, as he had a great dislike to the responsibility of giving advice. There was at that time no law to prevent his practising as an apothecary, the Act of 1815 not having been passed until several years afterwards. But he never asserted his right to the privilege of an "Apothecary before the Act," as he disclaimed any pretensions to medical qualification, having from choice adopted the business of a chemist, and devoting his chief attention to the prescription department. His brother Jacob, who came originally as an apprentice, rather expected to have been taken into partnership, but in this he was disappointed, and accordingly contemplated establishing himself in business in some other part of London. Before putting his intention into practice he was taken ill, and died of consumption in October, 1805.

Thomas Zachary's apprenticeship ended in 1806. By that time the number of hands employed was two shopmen and three apprentices. It was soon afterwards requisite to sacrifice the private door in order to enlarge the shop.

Although diligent and regular in his attention to business, John Bell did not allow this to interfere with his religious duties. He always kept the shop entirely closed on Sundays, one assistant being on duty in the morning and two during the remainder of the day to attend to such business as came in, which was sometimes as much as that number could accomplish. He also kept the shop closed on Thursday morning until past twelve o'clock, in order to allow the young men (except those on duty) to attend meeting. The assistants at the time to which we allude were, like their master, members of the Society of Friends, and the above custom was instituted under a sense of duty. It was, however, attended with much inconvenience and mortification, as it gave rise to a constant report that Mr. Bell was dead, and the young men left in charge on those occasions had enough to do to answer inquiries on this subject. The practice was, however, continued for many years, until the active management came into other hands.

In the domestic regulations of the establishment he was remarkably strict, prohibited the assistants from going out in the evening under any pretence without express permission, and would not allow any deviation from the rules and regulations, which were drawn up in writing. Notwithstanding this adherence to discipline, he was generally on the best terms with his assistants while in his employment, as well as afterwards. In taking apprentices, he was never tempted by a high premium, and, in fact, rather preferred those who had nothing to pay, under the idea that he was rendering them the greater service, and that they would be more likely to prove docile and tractable. In this he was sometimes disappointed. One young man whom he had taken under these circumstances was refractory, and when he was out of his time, he started an opposition shop in the same

street. The front was in imitation of that of his late master —"John Bell" over the door, with a small "from"—"house Bell," on one door-post, and "shop Bell" on the other. The imitation was so good, that Mrs. Sheppard, the wife of the kind uncle, who came one evening to tea, having directed the coachman to drive to John Bell's, was taken to the wrong shop, and discovered her mistake when on the staircase from the young man inquiring where she was going, and what was her business. She replied that she had come to her nephew, John Bell's, to tea, on which he exclaimed—"This is *from* John Bell's, the other shop is a few doors higher up."

In the year 1819, John Bell found it requisite to obtain some relief from the confinement of business, much of his time being required for other engagements, in which he felt it to be his duty to occupy himself. Accordingly, he took into partnership Thomas Zachary and John H. Walduck, who had previously been his apprentices.

From this time, the senior partner gradually relaxed in his business exertions, and devoted much of his time to benevolent and charitable objects, especially in connection with the Society of Friends.

John Bell was always disposed to unite with his brethren in any movement which circumstances rendered necessary for the benefit of the trade, as, for instance, in reference to the Stamp and Excise Acts, or any threatened legislative measures of an obnoxious character; but he never took a prominent part, and from his natural diffidence was not active in public business. When the Pharmaceutical Society was proposed he approved of its objects, but was not sanguine as to the result, his past experience having led to a belief that the chemists were not likely to "pull together" for any length of time. He took a lively interest in the proceedings of the Society, attended several of the early meetings, and was agreeably surprised at the continued prosperity of the institution.

In the year 1839 he had the misfortune to lose his wife, and this calamity occasioned a shock from which he never entirely recovered.

About this period his attention was directed to the subject of intemperance and its lamentable effects on the lower classes. Being in the habit of distributing tracts to the poor in favour of total abstinence, he considered it his duty to try the experiment himself, by way of example. He had always been remarkable for temperate habits, although accustomed to take beer or wine in moderation, and in adopting the principle of abstinence he took no pledge, but simply tried the experiment, in which he persevered for about seven years. During this time his health was not uniformly good. He occasionally suffered from a langour and a sluggish circulation, and he was advised to try the effect of a more stimulating regimen. For some time he was unwilling to deviate from his abstinent resolve, but Dr. Wilson, who seconded Dr. Hodgkin in this advice, suggested a plan which overcame the scruple. The wine was put up in two ounce bottles, and sent from the shop as a medicine. Finding the effect beneficial, he afterwards submitted, under medical orders, to take a glass of wine in the usual way. During the last year of his life, the infirmities of age gradually increased, he nearly lost his sight, his strength failed, and he complained of want of circulation, especially in the lower extremities.

On the 10th of December, a sore place was observed in one foot, which terminated in mortification in the course of a month. During this period he was confined to his room, and was fully aware of the serious nature of his disorder. Yet he was patient and cheerful, appeared to feel no regret on leaving this world, nor any dread at the approach of death. He expressed much thankfulness for all the mercies he had received during his life, and full confidence that he should be equally favoured to the end. He retained the possession of his mental faculties to the last, and in taking leave of his family his only anxiety appeared to be on their account; with regard to himself he was calm and resigned, and his constitutional nervous timidity, which had been his constant companion through life, forsook him at the hour of death.

He died at his residence at Wandsworth, on the 14th of January, 1849, in his 75th year.

There are about 14,000 drug stores in the United States, and the number of persons employed in the various branches of the drug business is estimated at 130,000.

THE BROUGH FUND.

CONCLUDING LIST OF SUBSCRIPTIONS.

	£	s.	d.
Batie, John, Dumbarton	0	5	0
Benger, F. Baden, Manchester	1	1	0
Bowler, William Samuel, Belper	0	5	0
Braithwaite, J. C., 54, Kentish Town-road, N.W.	0	5	0
Clifford, T. A., 174, Warwick-street, S.W.	0	2	0
Commans, R. D., Bath	2	2	0
Cooke, William, Norwich	0	5	0
Davis, D. T., Leominster	1	1	0
Davy, Yates, and Routledge, 64, Park-street, Southwark	2	2	0
Duncanson, William, Stirling	0	10	6
Dyson, W. B., Gloucester-road, South Kensington	0	10	6
Ellis, Bartlett, Banff	0	5	0
Ellis, William, Burnham, Essex	0	5	0
Foulkes, W. H., Rhyl	0	5	0
Grindall, John, Hull	0	5	0
Hambly, C. J., Taunton	0	10	0
Hodsell, Thomas, 17, Cross-street, Hoxton	0	5	0
Hughes, E. G., Manchester	0	10	0
Hunter, Frederick N., Durham	0	2	6
Huskisson, Henry, Swinton-street	1	1	0
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Jones, Mr., Kingsdown, Bristol	1	1	0
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Musket, James, Harleston	0	5	0
Pearce, Joseph, Crewkerne	0	5	0
Pound, Matthew, 60, Leather-lane, E.C.	0	10	0
Potts, Richard Smith, Ilkeston	0	5	0
Savory and Moore, 143, New Bond-street, W.	5	5	0
Shaw, A. H., Stockport	1	1	0
Speechly, George, Bishop Stortford	0	5	0
Stott, W., Sowerby Bridge	0	10	6
Wickham, William, 509, New Cross-road, S.E.	0	10	0

Subscribers will be informed next month, in the columns of this journal, of the arrangements shortly to be made by the Committee for utilizing the funds collected.

Olive Oil Trade of Nice.—At Nice, the olive tree is planted over an extent of 15,000 acres, and the produce in a fairly good year is from 180,000 to 200,000 gallons. There are many varieties of the olive cultivated in this neighbourhood, each having some peculiar quality. The olives are collected from the month of December, and those which ripen earliest are the best. The collection of the fruit is made by beating the trees, as is done in England for walnuts, etc.; but this is described as a very imperfect mode of gathering, as the olives are bruised and the oil loses in quality, being never so good as in districts where the olives are picked from the trees by hand. The best oil is made from the fruit immediately after being taken from the tree, but this is only practicable where the amount of a day or two's gathering is large. It is, consequently, the custom of many olive-growers to leave the fruit in heaps until a sufficient quantity is collected for the mill; but it must here be observed that the inevitable fermentation of the fruit under this system materially depreciates the quality of the oil. There are in the departments of Nice, according to an official return, 168 oil mills, some of which are worked by horse-power, although the majority are worked by water-power. Ten gallons of good olives will yield from one to one and a half gallons of oil; but the average quality will rarely give more than ten per cent. The mill-owners, it is stated, are commonly paid in kind, but they have also large profits from the wash, that is, the expressed juice from which the oil has been taken from the surface. This wash they keep several days, and considerable quantities of good oil rise gradually to the surface. The analysis of the best oil produced in the district of Nice is as follows:—carbon, 77·21; hydrogen, 13·36; oxygen, 9·43. There are very nearly 800,000 olive trees in the country of Nice, and it is estimated that each tree will give in a good year from 50 to 150 kilogrammes of olives, according to size. The harvest, however, is extremely uncertain.

THE CHEMIST AND DRUGGIST

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IRELAND.

IT will not surprise any English reader to hear that the chemists and druggists of our sister isle are not quite satisfied with the condition of pharmaceutical affairs which prevails amongst them. The gentlemen on the other side of St. George's Channel have reared such an abundant crop of grievances that, unless it be within the walls of St. Stephens, where an Irish row is always regarded as the fête of the session, there is an *à priori* probability that the complaint will be disregarded. In this instance, however, there is abundant reason for agitation, and we heartily wish success to the fraternity who, under the title of the United Society of Chemists and Druggists of Ireland, are striving to improve their own position and advantage the public at the same time. The chemists and druggists of the United Kingdom ought to form one united body, and in the hope of promoting this end we shall briefly recapitulate the position of the Irish chemists and druggists as it now exists.

Any person, with or without qualification, may open a chemist's shop in any part of Ireland. He may sell all the poisons in the schedule, though according to the recent Sale of Poisons Act (1870), he is bound to observe similar regulations to those which are enjoined on British chemists. Thus, in one sense, the trade is more open there than at the present time it is in England. But with all this liberty there is one drawback, one fly in his pot of ointment, one

tree in the midst of his garden whose fruit he may not pluck. He must not dispense a physician's prescription. This is a privilege exclusively possessed by those who have passed through the curriculum of the Apothecaries' Hall of Ireland. He may dispense any recipe, however complicated its nature, if it comes into the classification of "family recipes;" but he may not prepare or sell any mixture, however simple, nor indeed any article if the order be signed by a physician. For example, a chemist and druggist in Ireland would be liable to a penalty, if a paper were presented to him with the following written on it by a physician—

℞ Ol. Ricini ℥ j.
statim sumend. A. B. C.

and if he supplied it. The apothecary, on the other hand, who is licensed to practise medicine as well as to prepare it, keeps open shop for the sale of drugs, and often leaves only an apprentice at home to dispense prescriptions and sell poisons, while he himself is out on his rounds.

We do not state all these facts necessarily as complaints. Our purpose is simply to place the matter fairly before our readers. But we have probably said enough to show that there is either too much or too little legislation in Ireland.

Let us look a little closer into these apothecaries. They are expressly trained and instructed to become what we usually know as general practitioners. They go through almost the same course as those who pass the Apothecaries Hall in England, and are examined in Chemistry, Botany, Anatomy, Physiology, Materia Medica, Pharmacy, Medicine Surgery, Pathology, Therapeutics, Midwifery, Forensic Medicine, and Hygiene. No one pretends, of course, that all this is necessary simply for the practice of pharmacy; the curriculum is professedly intended for those who wish to practice as physicians, and yet any one who would devote himself to the practice of pharmacy in Ireland in its fullest extent must study all these subjects. It will be evident that such regulations work directly against the progress of pharmacy. The latter is invariably regarded as a minor subject in the course of instruction, and thus a student necessarily acquires but a smattering of it and of its allied subjects. In England as a matter of theory, whatever may be our practice, we are fully agreed as to the desirability of separating the two studies. We naturally get better pharmacists if men devote themselves exclusively to this branch of the art. In Ireland, the result has followed, which it would be perfectly easy to forecast, that the apothecaries give their first and best attention to their profession, and leave their shops in the charge of an apprentice. We are aware that there are shops in the possession of apothecaries which are as well conducted as any in Ireland or elsewhere; but we have described what it will not be denied is a very common result.

Now in Dublin, and some other of the large towns, there has sprung up a body of chemists and druggists who have exerted themselves to supply the public wants very successfully. In Dublin, they number perhaps as many as the apothecaries. This class very naturally chafes at the inconvenient and invidious distinction which is made between them and the apothecaries. But they put forward no unreasonable demand; they merely ask that a pharmaceutical examination shall be established in Ireland similar to that which is in existence in England. They submit that it cannot be necessary to go through all the apothecaries' curriculum, seeing that all they wish is to practise pharmacy; but they are willing to agree to the imposition of such a test as the Minor examination of the Pharmaceutical Society. They have decided to make application first of all, to the Apothecaries' Hall of Ireland; but in the event of their negotiations failing in that quarter, they will probably turn to the Pharmaceutical Society of Great Britain, and ask them to establish an Irish as well as a Scottish branch. We have little doubt but that if the Society would make the first move in the matter, their interposition would be welcomed; and every one interested in the pharmacy of this empire would be glad to see all sections of it brought into one organization.

THE SUPPLEMENT TO THE PHARMACOPŒIA.

THE proposal to issue a supplement to our British Pharmacopœia—put forward by Dr. Redwood, and emanating from the Pharmacopœia Committee of the General Medical Council—is one which commends itself for its simplicity and practical value. It is very desirable for the sake of general convenience that the lives of national pharmacopœias should be extended to the utmost limit consistent with scientific and therapeutical requirements, and in this device of a perhaps quintennial appendix, we recognise a clever contrivance for satisfying longings for reform, without upsetting conservative prejudices. The supplement or appendix—if it become an established institution among us—will correspond with the theologic middle state. Preparations admitted into that region will have reached a sort of semi-blissful condition, with fair prospect of developing into the full glory of pharmacopœia honours. This purgatorial existence for medical simples or compounds will be a real gain. It will ensure for certain novelties an abundant trial, and on the other hand it will in future prevent the overloading of the Pharmacopœia with the merely ephemeral remedies which accident or fashion may bring into momentary popularity.

First on the list of addenda stands Acetum Ipecacuanhæ—and we are glad to welcome this veteran friend of youthful hooping-cough—in its new dress. We have long regarded the old domestic favourite ipecacuanha wine with considerable mistrust. Sherry, we regret to say, is an article of very uncertain composition, and therefore untrustworthy as a solvent at any time; and since dilute acids will dissolve emetia much more readily than either wine or water, we believe the new vinegar will be in every respect superior to its alcoholic rival.

Next comes Acetic Ether, official in the Prussian Pharmacopœia, a far more agreeable preparation than any of the other ethers, and having, moreover, the advantage of greater solubility in water. We do not, however, agree with Dr. Redwood in thinking it advisable to omit the details of its production. It certainly has as much claim to be noticed as the present official ethers; and, being a somewhat recent preparation, it is still more important that the pharmacist, wishing to prepare it, should be able to proceed under pharmacopœial authority. To omit processes for important remedial agents, is offering a premium to the introduction into medicinal use of unsatisfactory and inefficient preparations.

The appearance of the next chemical compound, nitrate of ammonia (by the way, *why*, ignoring modern nomenclature, should the unfortunate salt be styled ammoniæ nitras)—is undoubtedly in deference to the almost universal adaption of nitrous oxide, in preference to other anæsthetics. For amyl nitrite, the *Appendix* is certainly the most proper place. So little, comparatively, is known of this powerful compound, that it is doubtful whether as yet it ought to find any place amongst well-tried therapeutical agents. In cases of this kind, we think the formation of a secondary list, similar to that adapted in the American Pharmacopœia—an improvement, we believe, strongly advocated by Professor Bentley—would be found of considerable value. It would constitute a

kind of vestibule, where new remedies might wait till they had been proved by experience worthy of a permanent place in the official Materia Medica. If such a list had been before provided, the present Pharmacopœia might have been less cumbered with such things as Kousso, Indian Hemp, and Matico, whose only merit was that of novelty.

A fresh flavouring agent appears in Aqua Chloroformi, which, judging from Professor Redwood's experience, possesses an irresistibly fascinating taste.

Although it may seem that there are already quite enough official preparations of bismuth, we are glad to recognise in the introduction of Bismuthi Oxidum, a desire to replace some of the uncertain Pharmacopœia compounds with definite chemical salts. It will also, doubtless, be preferred to the metal in the preparation of Liquor Bismuthi.

The extensive use of the various hypophosphites since their introduction a few years since by Dr. Churchill, demanded an official recognition, and the calcium and sodium hypophosphites find an appropriate place in the proposed Appendix.

No one who, like Dr. Redwood himself, has been in the habit of using Cooper's or Rigollot's leaves in preference to the abominable mess, known as mustard plaster, will regret the appearance of Charta Sinapis.

Chloral Hydrate, the next addition, is, of course, a *sine quâ non*.

A fluid extract of liquorice, prepared by dissolving the official extract in a mixture of glycerine and proof spirit, will be a much more convenient form for use in dispensing than the treacly substance now in use, which, by the way, forms but a poor pill basis.

Unless the precipitated Mercuric Oxide is intended to supersede the famous "red precipitate" (which we greatly doubt), we do not approve of swelling the already long list of mercurials,

A decided novelty to English pharmacy is Liquor Magnesia Citratis, long official in the Codex, and in the United States Pharmacopœia. The formula proposed by Dr. Redwood consists of magnesium carbonate and sulphate citric acid and syrup of lemons, the preparation being bottled in the same manner as seltzer water. The sample produced by the Professor at the evening meeting was certainly so agreeable that we might have quaffed the whole of the sparkling draught, had we not fortunately remembered that behind the effervescence there lurked the purgative properties of Epsom salts.

The increasing use of phosphorus by medical men will justify the introduction of phosphorated oil, an elegant preparation, obtained by gradually heating phosporus in oil of almonds, to a temperature of 480° F., and then filtering.

The extensive employment and undoubted efficacy of Pepsin demand that it should be no longer excluded from Pharmacopœan remedies. The difficulty seems to be, as Dr. Redwood observed, in what form it should be recognised We think, however, the course he proposed is the best, viz.: to introduce pure pepsin, and then if medical men wish to have pepsin with starch, or pepsin with acid, they must specially order it in those forms.

The remaining additions are tincture of fresh orange peel, prepared from the ripe fruit with rectified spirit, and compound powder of claterium, simply intended as a dilute vehicle for that powerful medicine, Oxymel Ipecacuanha, Pil. Jalapæ co., Sapo Animalis (introduced epecially on behalf of that refractory compound Lin. Potass. Iod. c. Sapone), Succus Belladonnæ, and Succus Hyoscyami, and three suppositories of carbolic acid, morphia, and tannin.

Such are the remedies considered of sufficient importance to receive the stamp of official sanction from the British Medical Council, and, on the whole, we think they are each worthy of a place in the Pharmacopœia. It is, of course, a difficult matter to say where the line shall be drawn in making additions to a work of so comprehensive a character. We do not ourselves think that its pages should be closed so completely to dietetics. Why should not the well-tried and indispensable products of maranta and cassava be admitted; and guarana, whose seeds yield the delicious and nutritious compound known as guarana bread, such an admirable substitute for chocolate? The leaves of chimaphila, too, are certainly as efficacious as those of the bear-berry; and, amongst anthelmintics, our American brethren give a prominent place to spigelia. We quite coincide in the desire to keep the Pharmacopœia free from quackery; but might not some formula have been introduced to take the place of chlorodyne? It has certainly performed therapeutical work of vast and valuable extent, and is, in our opinion, worthy a place amongst the best of remedial agents. The Eucalyptus Oil, which has been so warmly praised by some practitioners, might also be thought of. Some of the more recent anæsthetics, too, might expect a place. Various other preparations extensively prescribed by eminent practitioners, such as the syrups of the phosphates and hypophosphites, also deserve consideration at the hands of the Medical Council.

PHARMACIENNES.

IT is with a sentiment of profound melancholy that we anticipate the probable question of the day, for the next annual meeting of the Pharmaceutical Society. The inability to estimate the proper size of objects is a defect often to be traced in minds of an otherwise wide grasp. They see men as trees walking, while women assume the proportions of mountains when they venture into pharmaceutical regions; and here we have a most distinct specimen of this falsity of vision. Of course, it may be that the defect is ours, and we, unable to grasp its proportions, are unfit to cope with it.

Let it be clearly understood, the question is not whether women shall be permitted to become chemists and druggists—respecting that, the Council has not the least power to decide. All that is involved is, whether a few young ladies shall be permitted to become associates, and perhaps, ultimately, members of the Pharmaceutical Society. Ordinary people can scarcely see that the fate of empires can be hanging on such a point. And yet, month after month, the legislature of our body has discussed it with ever increasing energy, until at last overpowered by their sense of its magnitude, and with their own incapacity to deal with a question of such vastness, they have postponed their decision to the new Council, that is, practically, to the society generally. The co-operative squabbles, the education discussions, the Pharmacy Act, and its consequences, these were subjects that men could meet and discuss with some spirit. But the idea of whipping up members from Bristol, Manchester, Glasgow, and all the country over, on this little dispute, is almost ludicrous. However, such as it is, we must take it. We have written all we wish to say on the subject in former issues. Let us here bring together a few opinions on the subject from other sources. Mr. G. W. Sandford is the chief opponent to the admission of ladies, and it is only fair to say that he treats the subject rather argumentatively than sentimentally. The following letter from his pen appeared in the *Pharmaceutical Journal* of March 1st.:—

Sir,—The question of admitting ladies to the ranks of the Pharmaceutical Society will probably be a subject of discussion at our next annual meeting, and as the action of the Council regarding their admission has recently been com-

mented on by the editor of the CHEMIST AND DRUGGIST in a way to mislead readers who are not fully acquainted with the difference between *registration* under the "*Pharmacy Acts of* 1852 *and* 1868," and *enrolment* in the *Pharmaceutical Society*, I venture (knowing how extensively that journal is read by men who also read your Journal) to trouble you with a few remarks. I feel the more at liberty to do this because my name has appeared somewhat prominently in opposition to the ladies—an unenviable position it may be, but one which my sense of the welfare of the Pharmaceutical Society has compelled me to assume.

The CHEMIST AND DRUGGIST says of the refusal to elect three females as "Apprentices of the Society"—

"The Board of Examiners had no authority to refuse these ladies; the Board simply enacts definite requirements, and these were complied with to the letter. Putting it in the mildest form, it was scarcely delicate in the Council to upset the natural working out of the decision of the Examiners."

Your readers should be informed that the Council had neither the power nor the inclination to upset the decision of the Board of Examiners. On the report of the Board, the *Registrar* places the names of all who pass the examinations on their respective registers without reference to the *Council*, and persons so registered have all the rights of exercising their business to the fullest extent under the Pharmacy Acts.

The only question which came before the Council on the 5th of February was, whether Alice Marion Hart, Louisa Stammwitz, and Rosa Coombes Minshull should be admitted as apprentices *of the Pharmaceutical Society*.

Now, Sir, these ladies are utter strangers to me, therefore no personal feeling could influence me in moving that they be not admitted; but as I have always held that the Pharmaceutical Society was intended to be a Society of men, that certain disadvantages would arise from its being a mixed Society of men and women, and that the admission of females as apprentices would be only a stepping-stone to their admission as members, I felt bound to oppose them on the threshold.

As to the concluding words of the CHEMIST AND DRUGGIST, that the decision of the Council is "*as illegal as it is unjust*," I cannot dispute that point, because it is neither one nor the other. It is not unjust, because these ladies will still be allowed to continue their studies and, if they pass future examinations, to become chemists and druggists or pharmaceutical chemists, just as men do who never connect themselves with the Pharmaceutical Society.

It is not illegal, because all power to elect or reject candidates for admission TO THE SOCIETY is vested in the Council, and having given my "*serious attention*" to the remarks of your contemporary, I rise from the consideration with my "*sense of honour*" unembarrassed. I should indeed be sorry to throw any impediment in the way of ladies who desire to work out for themselves a means of self-support, *and in this case I am not doing so.* I think, however, there may be more fitting occupations for them than listening to the description of bodily ailments over our shop counters. It is true you may retort on me that in our bodily afflictions none can minister so well to our sufferings as women; but this is in the privacy of the household, and I cannot help thinking that the tendency of the present day is too much towards upsetting that natural and scriptural arrangement of the sexes, which has worked tolerably well for four thousand years.

GEORGE W. SANDFORD.

February 24th, 1873.

In response to this the editor of the *British Medical Journal* writes:—

"At a recent preliminary examination of students for admission to the register of apprentices of the Pharmaceutical Society, two ladies presented themselves, of whom one passed at the head of the list of over 400 who went in for examination. The whole list was presented in the usual form, after payment of registration fees for election as associates of the Society. The ladies' names were, on motion, however, taken out of the list, and, after the whole of the men had been elected in ordinary course, the weighty question was mooted, What shall be done with the ladies? After a long discussion, a division was taken, in which nine votes were given on the male side and nine on the female, and one epicene; the casting vote of the chairman was accordingly given for adjournment. The circumstances did not seem to us to call for much remark on our part. There is generally a good deal to be said for delay. The man who hesitates is not always lost. A lively discussion, however, marked by some spirited poetic effusions, has followed this vote; and the reasons which Mr. Sandford, the late President of the Society, now gives for his opposition to the admission of ladies into association with the Pharmaceutical Society, are such as to deserve attention. They suggest that, if vote he must, it may be desirable that in future he should fulfil that important function in silence, unless he wish to convert all his supporters into opponents, and effectually to ensure the success of the cause which he opposes. Of course he has sentimental objections. The opponents of anything which can benefit the material interests of women are always gushing in sentimental tenderness for them. But his solid objection is worthy of note. He thinks that women will not be fitted for 'listening to the description of bodily ailments over our shop-counters.' Now this is precisely what we should have thought they would not be expected to do over Mr. Sandford's shop-counter or any which he knew, recognised, or countenanced. If counter-practice be one of the occupations which Mr. Sandford thinks 'fitting' for assistants at his counter or any other, it is very desirable that that should be distinctly understood. It is not, we believe, the opinion of the majority of respectable pharmaceutical chemists. It is certainly not that of the medical profession. No doubt the ladies would blush to be engaged in it. But we should have expected that Mr. Sandford himself and all his male assistants would have blushed, and that even the roseate bottles in the window would have assumed a deeper hue of red, with indignation at the suggestion that they ought or could or did engage in listening to the ailments of their customers. If a disinclination to that occupation be the distinguishing characteristic of the ladies, and if the only other objection be that they come out at the head of the classes—and these are the only two that have yet been urged—the general opinion will probably be that a female monopoly of the pharmaceutical business would, on the whole, be more beneficial to the best interests of pharmacy and medicine than a male monopoly. The CHEMIST AND DRUGGIST has an excellent, manly, and straightforward article on the whole subject, which may, we hope, be taken as expressing the general opinion of pharmacists."

Our pharmaceutical contemporary, too, has opened a poet's corner, in which the views of both sides have been urged in appropriate verse. We can only spare space for the first of these lucubrations, which bears the initials of Mr. Bostock, Ashton-under-Lyne. It is entitled "A Valentine," and is addressed to the President, Vice-President, and Council of the Royal Pharmaceutical Society of Great Britain.

"O, woman! . . . .
"When pain and anguish wring the brow,
"A ministering angel thou!"

Ye gentlemen of England, so loyal, free, and grand,
Who in the realms of "Pharmacy" have gained the foremost stand,
A "young man from the country," with reverence would draw near
And seek permission, if you please, to whisper in your ear.
'The Journal' hints that you have held a long and warm debate;
Yea, more—that what with "pros" and "cons" you kept it up till late—
Your lovely wives and daughters, too, I'm sure would all feel sad,
When you got home at last and said what a "stormy day" you'd had.
And, O! methinks they'd almost weep when you with feverish brow
Began to say that *they* had been the cause of all the row!
And each one to her partner dear—or fond Papa—would say,
"Do tell me quickly! tell me, love, how *we* have caused this fray?"
"I'm glad at least that *you* were there—with true and noble heart—
"For like a freeborn Englishman *you'd* take the women's part;
"*You'd* ne'er consent that we should be the slave of any man—
"But seek to help us all to *gain* and *do* what good we can."

Well, gentlemen, if this be true, why should you still delay
To grant the privilege they seek, until the month of May?
If they desire to learn the art which soothes our pain and woe,
You surely will not close your door and coldly answer "*No.*"
If by the bedside of the sick they watch with sleepless care,
And tenderly administer the medicines you prepare,
Methinks it cannot be a sin—if they desire to try—
To let them learn to *mix* the drugs, as well as you or I;
The only fear is lest they should surpass us by-and-by!
But now that they have once begun, I'm sure they won't be still;
What man on earth could ever turn a woman's steadfast will?
That they have good abilities was proved last month by *three*.
Especially by *one* who stood the highest on the tree!
A "Royal charter" you've obtained, and published certain rules,
But none of these, I think, excludes the *Women* from our schools.
If they obey the law laid down, we cannot keep them out,
And, Oh! they're wide enough awake to know what they're about.

Be gallant, just, and graceful, then—let prejudice give way—
Admit them freely to your ranks, nor wait another day.
Come, then, most noble "President," let them beside you stand;
The "Vice," I'm sure, will proudly join and help with generous hand.
Had but your final "casting vote" been given the *other* way,
Some dozen fragrant Valentines you might have had to day!

Many argue from a total misapprehension of the question in dispute, but Mr. Balkwill comes to the point most unquestionably. The opening sentence of his letter explains his views with so much clearness that we need not add the rest. "I think," he says, "the arguments adduced against the admission of women to the Pharmaceutical Society are senseless, selfish, narrow-minded, and unworthy of the profession to which we belong." That is what we tried to say, but our command of language was hardly equal to the occasion.

CONDUCTED BY RICHARD J. MOSS, F.C.S.

Analytical Exercise.

WE purpose distributing samples of another of the official compounds of the Pharmacopœia for this month's exercise. In addition to ascertaining the official name of the substance, it is to be subjected to such a systematic qualitative analysis as is required for the purpose of detecting any impurities which it may contain.

Students who wish to compete should send us their names and addresses before the 20th inst. On the 25th we shall forward the samples.

Students' papers will be received up to the 15th of the following month.

ANSWERS.

The *Zinci acetas* of the Pharmacopœia was the subject of our last exercise. The impurities present were zinc oxide, and carbonate, the products of partial decomposition of the acetate. It also contained traces of aluminium, iron (diad), magnesium, and sodium, with the sulphuric radical.

Some of our contributors were puzzled about the formation of a precipitate in the preparation of an aquoous solution of this salt. This phenomenon is easily explained. At comparatively low temperatures, even 10° or 15° C., zinc acetate gives off acetic acid, becomes opaque, and no longer dissolves completely in water. When this impure salt is boiled in water, some of the oxide is dissolved by the acetate, and a basic salt is produced. On diluting the solution of the basic salt with water, a still more basic salt of doubtful composition is precipitated in the form of a loose powder.

There was another circumstance connected with this analysis which requires some explanation. A few drops of dilute hydrochloric acid sufficed to show that there was no precipitate produced by this re-agent. Hydrogen monosulphide was then passed through the solution; a white precipitate made its appearance, and was, in many cases, at once pronounced to be sulphur. In cases where very little hydrochloric acid had been added, this precipitate must have assumed formidable proportions. Its quantity, however, did not prevent it from being regarded as sulphur; nor even its appearance, which was quite unlike the turbidity due to sulphur precipitated in this manner; for it was flocculent, and subsided rapidly. This precipitate consisted of hydrated zinc sulphide. The presence of a free mineral acid in moderate quantity prevents this reaction; but acetic acid has not the same effect. As the salt under examination was an acetate, when hydrochloric acid was added in insufficient quantity to the aqueous solution, and the mixture then subjected to the action of hydrogen monosulphide, the hydrochloric radical took the place of the acetic radical which was liberated. The liquid then consisted of a solution of zinc chloride in the presence of free acetic acid, and therefore presented conditions favourable to the precipitation of the hydrated zinc sulphide. The precautions to be adopted in order to avoid this precipitation are obvious, and the preliminary examination should have led to their adoption.

We are frequently obliged to call the attention of some of our correspondents to the formulæ which they employ. As long as the formulæ represent the constitution of chemical compounds in accordance with any known theory we shall not object to them; although, for ordinary purposes, we much prefer those which are least theoretical, such as formulæ constructed under the unitary hypothesis. But we must remonstrate when called upon to interpret formulæ which appear to be constructed under the impression that it is possible to blend every imaginary hypothesis, and the old and new atomic weights, into one intelligible symbolical expression. Incorrect formulæ for definite and well-known chemical compounds are inexcusable. Whether the errors proceed from ignorance or from carelessness, every effort should be made to avoid them; for it is evident that accurate chemical knowledge cannot be acquired as long as the instruments employed in the attempt are so misunderstood as to be incorrectly named.

PRIZES.

The First Prize for the best analysis of the salt has been awarded to

EDWARD L. CLEAVER, 63, Oxford-street,

who carried off a prize of equal value in January.

The Second Prize has been awarded to

RICHARD W. GRIFFITHS (B.P.), 146 High-street, Southampton,

to whom we have awarded prizes on several occasions.

Marks awarded for Analyses.

Edward L. Cleaver (*1st prize*)	90
B. P. (*2nd prize*)	88
S. P.	87
G. C. Druce	80
Gradatim Excelsior	78
C. J. Mills	70
F. W. Fletcher	65
F. N. H.	59
W. T.	56
England	50
T. B.	12
G. H.	10
R. L.	6
Lactantius	0

TO CORRESPONDENTS.

*** All Communications should include the names and addresses of the writers; those that reach us after the fifteenth day of the month succeeding that in which the questions appear will be disregarded.

Prizes.—The students to whom prizes are awarded are requested to write at once to the publisher naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as a second prize.

G. C. Druce.—Effervescence with sulphuric acid is not proof of the presence of the carbonic radical. The evolved gas should give a precipitate with calcium hydrate; and if it consist of carbon dioxide alone, should be odourless. The precipitate which you refer to was probably due to aluminium.

C. J. Mills.—You employ several incorrect formulæ.

F. W. Fletcher.—When zinc compounds are heated on charcoal with sodium carbonate in the reducing flame, an incrustation is formed—yellow when hot, and white when cold. You did not refer to this reaction in your account of the experiment. Your allusion to "all other acidulous radicals" is, we presume, figurative.

F. N. H.—You state that "heated with K no Am. was given off;" there is something novel about this experiment. H_2NO_3 does not represent nitric acid.

W. T.—Potassium and sodium should be sought for in the filtrate from ammonium carbonate, or the solution which has failed to give a precipitate with that reagent; a portion of the same solution being reserved for examination for magnesium.

T. B.—The examination of your paper was a labour. If all the papers sent to us were like yours, we could have little prospect of escaping mental derangement in some form or other. Please to bear in mind that it is modern and not ancient chemistry which we expect you to study. We cannot accept formulæ in accordance with the old notation. If you have not a proper text-book you cannot do better than procure Attfield's "Chemistry."

G. H.—It will be necessary for you to send us a detailed report of your analysis, so that we may see how you conducted it.

Lactantius.—You do not even make an attempt at naming the substance. Your examination—we cannot call it analysis—must be very loosely conducted. If it is worth doing at all it is worth doing well. We require an account of your work; stray notes are useless.

REVIEWS.

VETERINARY SURGERY.*

THE Principal of the Edinburgh Veterinary College has given us a really valuable contribution to the science of which he is such an eminent professor, in this manual. The rapidity with which the old "horse doctor" has died out in this country, replaced by the more scientifically trained veterinary surgeon, is a promising sign for our quadrupedal friends. It is true that in some remote country districts an obstinate prejudice against college trained 'vets" still remains. A notion prevails that a capacity to understand, and to treat the diseases of horses and cattle is like the poetic, or the oratoric gift, "*nascitur non fit.*" But the large owners and breeders have come to a different conclusion, and though now and then reduced to the helpless system of "stamping out" the profession of the veterinary art, may fairly take courage at the higher class of practice which they have introduced.

A good work on veterinary surgery was very much wanted; this want is, without question, well filled by the volume before us. It so well covers the one department of treatment that it leads us to doubt whether we are perfectly supplied with an altogether satisfactory and modern manual of veterinary medicine. In this work, at any rate, Professor Williams makes no attempt to wander from the limits of his title page. Medical or hygienic treatment is mostly referred to in a very vague manner, as for example in the sentence following, which is extracted quite at random from page 45 ("ulceration)":—"The constitutional derangement must be treated by purgatives, anodynes, or sedatives, succeeded by tonics; and the diet regulated according to the stage and variety of the accompanying symptoms." It is manifestly absurd to complain of a book because it does not contain some items which are quite beyond its scope; but we frankly confess that we should have been more grateful to Professor Williams if he had not so rigorously excluded his medical knowledge from any contact with his surgical skill. The practitioner would have willingly spared some few pages of opinions, and quotations, like those on the nature of inflammation, if their place had been taken by some more definite instruction as to the adjunctive treatment to be followed in cases where surgical skill was also called for.

Of course we perceive that a great object of the author was to provide for the wants of students; and this purpose we are confident has been most admirably accomplished. The book contains sections on inflammation, which includes abscesses, ulcers, and the like, on fractures, on diseases of the bones, of the joints, of the feet, of the eyes, of the bladder, of the skin, &c., some excellent chapters on the important subjects of lameness and wounds; and other divisions of surgery. We are disposed to question whether 58 pages out of 674 is a fair proportion to give to the section on diseases of the skin, but perhaps the fear of trespassing on the domains of veterinary *medicine* curbed the author's pen. On looking into this department, however, we are compelled to admit, that as far as it goes, it is a very useful and suggestive treatise on affections of continual occurrence, and we intend to close our notice of this book by quoting a passage from this section. If the observations of Professor Williams, as to the effect of carbolic acid on dogs are correct, they ought to be widely known; if they are inaccurate, they ought to be contradicted. We read on page 639:—

"Canine skin-diseases require to be treated with very great care; remedies that cause a great amount of constitutional disturbance in the dog have no such effect when applied to other animals; for example, carbolic acid, although carefully prepared and diluted, and as carefully applied, produces in some instances so much depression as to cause death in a few hours, by a gradual failure of the heart's action (asthenia); in others, where the first depressing effects of the remedy have been overcome by stimulants, warmth, or electricity, the animal has fallen into a state of marasmus, with sunken eyes, fœtor of the breath, formation of sordes on the teeth, 'tarry,' faces, total loss of appetite, and death in six to twelve days. For these reasons I have discontinued the carbolic acid in dog cases, although it is an excellent local remedy. It might be supposed that these toxic effects result from the dog licking himself, thus introducing the acid into the stomach. I held this opinion at first, but further observation of cases where such precautions were taken as to render the licking of the poison an impossibility, has convinced me that it is absorbed into the system through the skin; that it has a peculiar effect upon the dog, and consequently, is a dangerous remedy. For similar reasons the mercurial ointment is unsafe."

For the dog, the following is the safest and best cutaneous stimulant:—

Unguentum sulpho-alkalinum.

R Sulph. sublim.	.. ..	ʒj.
Potass. carb...	.. ..	ʒj.
Adipis.	.. ..	℥j.

Literary Notes.

MESSRS. MACMILLAN AND Co. have published another of those little Science Primers of which we have previously had occasion to speak so highly. This one (No. IV., "Physical Geography," by Professor Geikie), is fully equal to those on Chemistry and Physics, which have preceded it. The introductory volume of the series, by Professor Huxley, is still wanting. Dr. Geikie conveys a vast quantity of information about rain, snow and ice, rivers and seas, the earth, and the ocean. The one great fact which he leads up to is the never-ceasing movement which is proceeding in every department of physical geography. All forms of life are decaying, rocks and mountains crumbling, the floor of the sea heaving, the bowels of the earth bursting forth, and at the same time a building-up process is going on, to compensate this apparent destruction. In the hands of a student this little book would be of great value, while an intelligent, well-read teacher would find it serve as a note-book, admirably arranged for lectures. We need hardly say that this remark applies also to the other "Primers" which have appeared.

The "Homœopathic Directory" for 1873 (London: Henry Turner and Co., 77, Fleet-street) has just appeared. It is edited this year by Dr. Shuldham, of Maidstone, who writes a jubilant preface, somewhat energetically maintaining that "homœopathy is not dead." The volume is so arranged as to give a comparative idea of the popularity of the various homœopathic stations throughout England. In addition to this, we have a list of homœopathic practitioners throughout the world. An abstract of the year's homœopathic literature, and much useful information as to medical and other subjects, gives this volume a useful character as a book of reference. And we may add, that it is turned out in the attractive style which homœopathists have cultivated.

A New York journal, known as the *Paint and Oil Trade*, has extended its title this year by adding "and Wholesale Druggist." In a recent issue of the *Paint and Oil Trade and Wholesale Druggist* we find a statement that under the New Coinage Act the new silver dollars of the United States will be a precise equivalent in weight and fineness to the French five-franc piece, and exactly interchangeable with the English shilling. We are glad to hear this, and shall be glad to interchange a large number of English shillings.

We hear that the Pharmaceutical Society of Victoria, a most vigorous little association, is about to start its journal.

Professor Galloway, of Dublin, we hear, is preparing a work on Applied Analysis.

We have received the new volume of the Proceedings of the American Pharmaceutical Association, which is, as usual, full of valuable pharmaceutical papers and discussions. We shall lay it under contribution before long.

*The Principles and Practice of Veterinary Surgery. By WILLIAM WILLIAMS, M.R.C.V.S., F.R.S.E., &c., Principal of the Edinburgh Veterinary College.

Answers to Correspondents.

A Subscriber.—You would find Morton's "Votorinary Pharmacy" (Longmans, Green, and Co.) well suited to your purpose.

Registered Student.—We should recommend you to obtain Thomson's "Wild Flowers; Where to Find and How to Know Them" (Routledge), and Lindley's "School Botany" (Bradbury and Evans). With the help of these we do not think you would find any difficulty in ascertaining the botanical name of the wild plants you meet with, or in referring them to their natural orders.

P. E. F.—1. Potassium Iodide: Make a solution, and divide into two parts. To one portion add hydrochloric acid and solution of platinic chloride—a yellow granular precipitate of the double chloride of potassium and platinum is formed. To the other portion add a few drops of chlorine water, and a little starch mucilage—deep blue iodide of starch will be produced. 2. Potassium Bromide: Proceed as before, and on the addition of the mucilage a yellow bromide of starch will be formed. 3. Magnesium Sulphate: To a solution of the salt add solution of ammonium phosphate—a white precipitate of the double phosphate falls. To more of the solution add solution of barium chloride—insoluble barium sulphate is produced. The above are the reactions which either of the compounds mentioned would produce. Before applying them to a salt of unknown composition, the absence of other substances, which might behave in a similar manner, must of course be ascertained.

G. W. S.—We should think the appearance of a fungoid growth on the leather is owing to a fault in its manufacture. If the fresh skins are not worked up immediately after being washed and then dried, they will be almost sure to ferment, or contract indelible spots. In the hope that you will find it useful we add a formula for elastic varnish for leather:—Take two parts by weight of resin, and one of india-rubber, and heat them in an earthenware vessel till they are fused together; after which they should be stirred till they are quite cold; a little boiled linseed oil may be added while the materials are hot.

H. B.—You may call yourself DENTIST to your heart's content. It is not necessary that you should know an upper tooth from a lower one to confer on you this distinction.

Inquirer (Exeter).—Letts and Co., Royal Exchange.

C. J. B., T. W. W., and others.—For information respecting the terms for competition in the CORNER FOR STUDENTS refer to that department itself in this number. You are all eligible.

S. C.—You can prepare artificial lime-juice as follows:—

℞ Acid Citric, ʒx.
Potas. Carb., grs. xlv.
Sacch. Alb., ℥ijss.
Aquæ Oj.

Dissolve, add the peel of a lemon, infuse for twenty-four hours, and strain through a hair sieve. This preparation will retain its composition and flavour if kept in a cool place. For lime-juice cordial, digest fresh and dried lemon peel, of each ℥ij., and fresh orange peel ℥j. in a gallon of proof spirit for a week, strain and press, and add water, q.s. to reduce it to desired strength, and lump sugar 3 lb. to the gallon. The addition of a little orange flower or rose-water improves the flavour.

J. R.—VERMIN KILLERS.—We quite agree with you. The resolution come to by the Whitehaven druggists was sensible and worth imitating in other towns. They have resolved not to sell less than four-pennyworth of vermin killer at once. All poisons which have to be registered might come under the same regulation.

G. T.—There can be no doubt that the pharmaceutical chemists of Liverpool have a perfect right to meet together *exclusively* in order to discuss any subject connected with business or otherwise; but it is certainly to be regretted that in a matter interesting to the whole trade a union of all its sections should not have been effected. The trade is none too strong united, but with dissensions within it is weak indeed.

J. H. D.—John Van Voorst, 1, Paternoster-row.

W. H.—There are still many places in the United States where no Pharmacy Act is in existence. Attempts to introduce such have been successful, however, in several States, and the cities of New York, Philadelphia, Baltimore, and San Francisco have special Acts to themselves. Boston and Chicago we believe are still open cities, but we are not quite certain about the former.

A. B. F.—The following is a good cement for India-rubber—

℞ India-rubber ℥j.
Gutta Percha ℥iv.
Bisulphide of Carbon ℥iv.

J. M.—We give you the following, not on our own, but on sound legal authority:—"Contracts which depend upon the existence, or the personal qualities, skill, or services of one of the parties, are, in general, discharged by the death of that party. Contracts of agency, giving authority to one of the parties to act for the other, are discharged by the death of the principal. A contract made by a firm, consisting of two partners, for the employment of an agent in their business for a term of years, was held to be discharged by the death of one of the partners before the expiration of the term."

Medicus.—The griping effects of podophyllum resin may be readily obviated by combining it with small doses of extract of hyoscyamus. You will find the following a good formula for podophyllum pills, sometimes sold under the name of "Aperitive Seeds," or "Castor-oil Pills":—

℞ Res. Podophyll.
Ext. Hyoscyam. āā gr. ilj.
Sapon. Dur. gr. iv. ss.
Syrupi, gtt. vj.
Mft. Pil. xii. in arg. fol.

H. G. R.—Spirit ammon. arom. is a solution of neutral ammonium carbonate in rectified spirit. The solution of ammonia is added to convert the acid carbonate of the commercial variety into the neutral salt.

THE NATURE OF GUANO.—It is a generally received opinion that the deposits of guano are exclusively the excrements of birds. Doctor Habel has investigated this matter microscopically and chemically, and has found that having treated the substance with an acid, the insoluble residue is composed of fossil sponge and other marine animals, and plants precisely similar in constitution to beings still existing in those seas. The fact, too, that the anchors of ships in the neighbourhood of the guano islands often bring up guano from the bottom of the ocean, is quite in opposition to the orthodox belief. Dr. Habel therefore considers that the deposits of guano must be the result of the accumulation of fossil plants and animals whose organic matter has been transformed into nitrogenous substance, the mineral portion remaining intact.

Hydrogen.—The reason why there is so little action between strong sulphuric acid and zinc is, that the zinc sulphate which is first formed is insoluble in the strong acid, and consequently further decomposition is arrested. When the water is added the zinc salt dissolves, and the action of course proceeds.

Dispenser.—You would find solution of chloral hydrate a good solvent for morphia and quinia.

R. V. S.—You can prepare carbolic acid paper as follows:—Melt five parts of stearin at a gentle heat, and stir in two parts of carbolic acid; then add five parts of melted paraffin, and stir the whole well together until cold. When required for use, melt the mixture over a water bath, and brush it over the surface of the paper with a soft brush.

Analyst.—We think you will find *strong* hydrochloric acid the best reagent for separating arsenicum and antimony sulphides. On boiling the mixture the antimony dissolves, leaving the arsenicum unaffected.

Aqua Fontana.—Clarke's test, consists in the addition to the water of a solution of soap in alcohol; the quantity of soap in the solution is known, and according to the quantity of the soap solution used in producing the desired results, so the degree of "hardness" in the water is determined; each degree of hardness represents one part by weight of calcium carbonate in 100,000 parts of water.

F. B.—Thanks for your letter and enclosure. We are always glad to receive notes from our country subscribers upon subjects of general interest.

Spongia.—To bleach the sponge you should first soak it in very dilute hydrochloric acid, which will dissolve out calcareous matter, then wash it thoroughly with cold water, and immerse it in a weak solution of chlorine. Lastly, rinse in clean cold water, and dry.

Ricinus.—There is no test by which you can with certainty detect the adulteration of castor oil with olive, nut, and other common oils. Perhaps the best indication is the higher congealing point of the latter, olive oil becoming partially solid at 36° Fahr., whilst castor oil does not congeal till the temperature has fallen to 0° Fahr. The Pharmacopœia test as to its solubility in one volume of alcohol is perfectly useless, for the castor will readily carry other fixed oils into solution, so that although the adulteration amounts to as much as 33 per cent., the specimen will be quite soluble in its own volume of alcohol.

Correspondence

COMPETITION.

TO THE EDITOR OF THE "CHEMIST AND DRUGGIST."

SIR,—In answering the second question of H. M., in last month's issue of the CHEMIST AND DRUGGIST, you very truly remarked, that the dream of a universal equality of prices is Utopian. In both city and village, although a price list was issued, calculated to meet the exigencies of each separately, there would still be necessary exceptions to the general rule, and prices for drugs retailed will always be more or less elastic. But surely something ought to be done which will prevent the general feeling of indignation which the public experience at being charged much more for the same thing in two different shops in the same place, let alone the glaring difference which is found between the prices charged, say in London and the North of Scotland. It is no uncommon thing for a prescription which has been dispensed in London and returned, to be brought in for preparation to a dispensary in some remote village in the North. As the chemist there finds no guide in the private mark, or absence of one, on the prescription, he charges his usual price. The stare of incredulity with which this is received would be laughable, were it not also very vexatious, for it is invariably almost followed by the question, "are you sure you are correct?" This is tantalizing when he has done his best, and finds his labour to please in vain, and that, too, by not charging enough. This is a grievance which exists between chemists, not only of town *versus* country, but also between each other individually. Wherever there are two chemists, you generally find a cut-throat system of under-selling pursued; and this has been done until I am confident that country dispensaries not only have less profits but actually charge less than they did fifteen or twenty years ago. When the advance in the cost of living is compared now, with then, the foolishness of this course will be recognised. Fancy patent medicines, the price of which it is plain would never be grudged, marked 1s. 1½d. and sold at 1s., sometimes less; getting 2d. for compound rhubarb pills, and 3d. for pil. coloc. co. per dozen; a six ounce mixture, 8d., eight ounce, 1s., 2d. an ounce for the majority of ointments; and you will then believe a chemist's trade be a very poor paying business, indeed, more especially in thinly populated and healthy country districts. I am convinced from observation that this plan of underselling is common to every place where there is any opposition, and I am also convinced that it hurts all and benefits none; it is altogether a short-sighted suicidal policy. Competition in drugs won't pay by cutting down the prices, as it sometimes does in drapery and mercantile concerns. It is a profession, and as such it ought to be conducted. Many years ago the medical profession in the country districts of this country found themselves getting into trouble by the inequality of their charges, and saw that unless they adopted some plan they could not keep pace with the advancing price of every household requisite. They set about the matter by calling a general meeting, forming themselves into an association, electing a committee, who drew up a scale of charges—which they published, any member of the association reserving for himself the right to alter the scale as he saw fit, according to the social condition of his patients. They are ahead of us, for until we set about this matter in a like manner we shall be kept the longer a poorer and a more despised profession. Trusting that effectual steps will quickly be taken to remedy this glaring evil,

I am, yours, etc.,

Aberdeenshire. D. B. A.

PHARMACIENNES.

TO THE EDITOR OF THE "CHEMIST AND DRUGGIST."

SIR,—The strange conclusions arrived at by many correspondents connected with the subject of pharmaceutical education for females, seem to me to need a word or two of explanation.

In the first place, it is generally admitted that there is no law to prohibit ladies from becoming connected with the trade. They may attend the lectures at Bloomsbury-square, and subject themselves in due course to the necessary examinations. It is not, therefore, a question whether we shall or shall not allow them to compete with male labour, but simply a matter of official recognition by the Pharmaceutical Society. When gentlemen write and talk about the unfitness of women for this or that employment, or their inability to discriminate between *castor and croton oils*, or *magnesia sulphate* and *oxalic acid*, they are evidently travelling beyond the question, although the preliminary examinations augur most favourably for those who have entered on a pharmaceutical career. But it is not a question of ability at all—simply one of *sex*. Our ex-President says the Pharmaceutical Society was intended to be one of *men*; and so it has been, and so it will probably continue, as a rule; but that is no reason why the influence of the Society should be closed to female talent. On the contrary, it seems to me that the society should recognise and encourage talent irrespective of sex. You may prevent them from becoming apprentices or members, but you cannot prevent them becoming assistants and listening *to the bodily ailments*, or even from dealing in remedies for *maladies of a revolting kind!* One would fancy from the fact of ladies becoming *recognised* by the Society, that masters must be ready and willing to open their establishments in Piccadilly and Oxford-street, and make way for female assistants. Do you think, Mr. Editor, that any chemist and druggist, either in town or country, would engage such assistants unless he believed that by so doing he would be promoting his own interest? Supposing efficient female assistants could be procured at a few pounds a year less, would that circumstance induce any man to prefer female labour if it were likely to be distasteful to his customers? The ungallant, if not unjust, conduct of some of our brethren is not justified by the circumstances—for the very few ladies that will ever have the qualifications and necessary moral courage to undergo the ordeal of *two* or *three* examinations, where fifty per cent. are plucked, is never likely to be formidable, or to supersede the efficient male assistants. They may, however, be valuable as dispensers in some public charitable institutions, and infinitely better than the errand boy and groom sometimes employed in private surgeries.

There is nothing very improbable in contemplating the present and subsequent aspirants to fame becoming the future wives of M. P. S., and without detracting from their domestic duties, they might (especially in rural districts) be able, in the temporary absence of their husbands, to render valuable service, and, in the event of becoming widows, could continue the business, on which it may be a family is dependent.

Under all the circumstances, I cannot think the Council will hesitate, when the subject comes again before them, to decide in favour of recognising female talent.

I am, Sir, yours, &c.,

M. P. S.

GRANDMOTHERLY GOVERNMENT.

TO THE EDITOR OF THE "CHEMIST AND DRUGGIST."

SIR,—The Premier's unhappy position, is like that of the old man in the fable, who, in trying to please everybody, pleased nobody, and lost his ass in the bargain. Grandmotherly Government—that species of Government which does everything for us to make us good; which sends us home to bed at ten or eleven o'clock; which sends us to prison without option of fines, as rogues and vagabonds if we sit down to a rubber of whist with a visitor, friend, or our favourite bagman at his hotel; which dictates to a tradesman what work his errand-boy shall do, and fines him £5 if he employs his shop porter to clean his windows or carry a pail of water up stairs; which winks at Civil Service traders, and retains the income-tax;—Fortunately, Grandmotherly Government is not popular, and never will be in England. But your readers may say—this is not a political journal, and when we want politics, we go to the *Times* or the *Daily News*. Patience, gentle reader, there is a method in our madness; we have other grandmothers

beside grandmothers Bruce, Lowe, and Ayrton—we have a parallel in our mind's eye. For many years past our grandmothers who have from time to time constituted that brilliant assembly of *savans*, known as the Council of the Pharmaceutical Society, have legislated for the trade; they have heaped burden upon burden, restriction upon restriction, examination upon examination, and registration upon registration, till the chemist is at the present moment the best registered and examined individual in existence, and the only tradesman, except the licensed victualler, who is brought completely under surveillance of the police. *Our* grandmothers were never happy except when putting the screw on. They planted and nursed their legislative tree—they digged about it, and dunged it; and now if we ask, where is the fruit? echo answers, where? Can we discover as yet any outward and visible improvement in the circumstances of the masters or tradesmen? Are their names less often found amongst the bankrupts or liquidators? Ask any wholesale house. Do the assistants get better wages? Verily, no! Are parents more anxious to apprentice their sons to the trade? Not at all. Every chemist knows that it is next to an impossibility to get a respectable lad as an apprentice, no matter what the premium. But it is the last straw which breaks the camel's back, and it is the last move in registration which has completely outraged the feelings of the trade. The immense amount of trouble and inconvenience inflicted on the trade by the new regulations with regard to vermin killers has given occasion to grumbling far and wide, and mutterings loud and deep. The country chemists as a body are beginning impatiently to inquire when and where this sort of thing will end? what next? and next? They demand to know what are the corresponding advantages which have been received by them in return for all these restrictions, registrations, examinations, and subscriptions. They want to know if the very doubtful privilege of receiving the *Pharmaceutical Journal* once a week is to be the only and sufficient consolation and satisfaction for all these burdens, or (as an old chemist who calls himself an outsider, said the other day) "is it the very shadowy advantage of voting once a year for a few gentlemen of whom you know little or nothing?" They want to know when is the happy day to arrive when the grocer next door will be restrained from selling castor oil, cod liver oil, Epsom salts, senna, citrate of magnesia, and other drugs too numerous to mention; or when will the ironmonger be restrained from competing with him in the sale of benzole, colza, paraffine, in oils and colours; or, more important than all, when is the doctor to cease to compound his own prescriptions, to supply his patients with trusses and elastic stockings, and in small towns more especially to be the most important and privileged rival of the unfortunate druggist, who possibly never sees a prescription from one year's end to the other? Our grandmothers have heretofore, with a few honourable exceptions, been high caste men, who look down with contempt on the ordinary chemist, who neither knew nor cared for the interests of the men who compose nine-tenths of the trade; but a change is coming o'er the spirit of their dream, and the day is coming when the democracy of the trade will make itself heard and felt. The present moment is propitious; the time is at hand when a number of fresh members are to be chosen for the Council. Up rouse ye then, my merry, merry men, the hour has come, and the man only is wanted, who will stand up for your rights, and demand the privileges to which you are entitled. Whoever he is, when he comes he may rest assured he shall lack neither support nor assistance.

I am, Sir, yours truly,
NOBODY PARTICULAR.

A HANDSOME dining-room timepicce in black marble and bronze inlaid with malachite, was presented to Dr. Muter, by way of a testimonial, by his present and some of his old studen s on his birthday, February 27. It was stated to be "a token of the great esteem in which they held his kind and effectual efforts to promote their welfare." In thanking the donors, Dr. Muter remarked that the presence of so many of his old students made him feel that he had accomplished an earnest desire—namely, that when the relation of lecturer and student had passed away that of friend remained intact.

REVISED TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the publishor of the CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to "The Publisher of the CHEMIST AND DRUGGIST, Colonial Buildings, Cannon-street, London, E.C.," the envelope to be endorsed also with the number. The publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

DISPOSAL.

One 2-gallon Tincture-Press. 16/11.

Steam Copper Still Worm, &c. Wilkinson and Co., Baker's-hill, Sheffield.

Handsome Dispensing Screen, equal to new, convenient shelving at back, £3 10s. 29/10.

"British Pharmacopœia," last edition, new. Offer wanted. Jenner, Bury St. Edmunds.

Printing Press, good condition. Cost 15s.; take 10s. 6d. N., care of Wilson, Walsham-le-Willows, Suffolk.

Fowne's "Chemistry," 10th edition; good condition. Cash offers. 24/11.

Two Pill Machines to cut 24 and 12. Price 9s. and 15s. 6d. Andrews, Chemist, Eastbourne.

Potass. Iodid. Pure, one cwt. Offers wanted. Thornley, Stow-on-the-Wold.

Ten years "Pharmaceutical Journal." Offers wanted. Or exchanged for a large Marble Mortar, suitable for Horse Powder. J. Greaves, Crewkerne.

Fifth Thousand, each, Lemonade and Potash Water Labels, very cheap. Samples forwarded. Fred. Craven, Batley Carr, Dewsbury.

"Notes on Chemistry, for Students preparing for the Minor." Post free 12 stamps. "Alpha," Glenvue Works, East Grinstead.

Entire Fixtures of Chemist's Shop, Cases, Counters, Gold, labelled Bottles, Mahogany Drawers, and Scales. Humphries, Garston, Liverpool.

The Fixturcs, Bottles, Jars, &c., of a small Chemist's Shop in Cheltenham, to be sold; a bargain. Address, "Chemist," Post-office, 73, High Street, Cheltenham.

Glass Sponge Case, on four turned legs, 30s.; 2 doz. Leeming's Essence, 26s.; magnificent Plate Glass Mirror, cheap. Fortune, Anstruther.

Goulding's Plant Food; 1½ cwt. bags Cattle Food; Maw's Disinfecting Cup; 10 doz. 1s. Marking Ink; 3 doz. 6d. Inks; Day and Martin's Blacking. Wyles, Bourn.

"The Handbook of Farriery," symptoms of diseases and recipes—useful book of reference. 2s. 6d. free. Joce, Bideford.

A Vulcanizer, with flasks and thermometer, in perfect condition. Cost £3 10s.; cash price, £2 5s., or exchanged. 25/10.

A quantity of Drugs and Sundries, for Cash or Exchange, cheap. Stamp for list. Page Woodcock, St. Faith's, Norwich.

Lescher's Cabinet of Materia Medica, Chemistry, and Botany, with book of instructions; new, £2. James Chadwick, Westfield-street, St. Helens, Lancashire.

Five Gallons Concentrated Long's Non-Poisonous Sheep Dipping Liquid, in gallon tins, perfect. Offers wanted. Betts, Chemist, Woodbridge.

Two gross 6d. Simpson's Cattle Spice, in perfect condition, half retail; saleable Patents or genuine Drugs taken. Parrington, Chemist, Batley.

Six Winchester Quarts Ol. Lavand. Ang. Opt., 1871. Offers wanted. Whitworth, Chemist, Littleborough, near Manchester.

Six pairs Lawrence's Flesh Gloves, not soiled; eighteen 1s. Turkish Bath Washing Pads. What offers? J. Partridge, Barnstaple.

The Labelled Bottles of a Chemist's Shop, new two years ago with Specie Jars, Globes, &c. Address, with stamp for particulars, A. Fallding, 250, Langsett-road, Sheffield.

Paris's "Pharmacologia," 8th edition, 4s. 6d.; "Pharmaceutical Journals," 1871-72; Bentley's "Botany" (new). Offers wanted. "Chemicus," Harbour-street, Folkestone.

"Pharmaceutical Journals," 1870, 1871, 1872, in good condition, price 15s. Address "Alpha," Post-office, Manchester.

A Shower Bath in good condition; four small Pear-shaped, Globes; half-plate Camera and Lens; Photographic Cases and Frames; cheap. Griffith, Slough.

Two 28-inch very handsome Specie Jars, Phœnix, Prince's Plume, with modern Mahogany Stands, polished. Complete, £5; worth £12. 3/15.

Union Smelling Bottles, 32s. per doz. Two sent as sample for 5s. in postage stamps. Boxes of Seidlitz Powders 5s. per doz. Orchard, Chemist, Salisbury.

"Pharmaceutical Journal," from 1863 to 1867; "Chemist and Druggist," from commencement, 1859. Offers wanted. W. Mitchell, Easton-road, Bristol.

Capital Pill Machine for 24 pills, price 12s; 4 lbs. Glass Tubing (various) and Box, 2s. 6d.; a 1 lb. Lignum Vitæ Twine Box, 3s. For cash. Half carriage paid. John Dutton, Chemist, West Cowes, Isle of Wight.

Noad's "Analysis," Qualitative and Quantitative; new; cost 16s., post free, 7s. 6d.; Lescher's "Elements of Pharmacy, 4s.; Smith's "Guide," 3s. 6d., post free. John Tully, jun., Chemist, East Grinstead.

"Pharmaceutical Journal," 1841-1870 (first and second series complete), recently bound, clean; Steam (Copper) Boiler with two 3 or 4-gallon Steam Jacketed Pans and connecting pipes, cheap. Macpherson, Stornoway.

Sixty gallons mixed Oils fined; 3½ lbs. Balsam Peru; 3 cwt. Lapis Calaminaris; 2 gallons Elastic Carriage Varnish, old; 14 lbs. Gum Copal; 3 lbs. Dragons' Blood, Cakes, cheap. 13/11.

Barber's "Pocket Pharmacopœia" (16th edition), with map, 3s.; Pocket Microscope, in polished walnut case, for studying botany, 4s. J. Tully, jun., Chemist, East Grinstead.

Cockle's, Norton's, Powell's, Steedman's, Winslow's, Allcock's, Browne's Chlorodyne, Browne's Troches, 9s. per dozen; Stedman's, 6s. 9d. Rayner, 309, New North-road, Islington.

Drugs, Chemicals, Patents, Sundries, Oils, Paints, Varnishes, Bottles. Send particulars, with quantities you require. Stamp for reply. Rayner, 309, New North-road, Islington.

Southall's Cabinet "Materia Medica," good condition; Lescher's Guide to "Modified;" also The Seven Poisonous Plants for "Modified;" and a lot of useful papers. Price, the lot, 22s. Cooper, Chemist, Crewe.

Binocular Microscope, first-class, quite new, with Polariscope, and other apparatus, in handsome polished mahogany cabinet. Only £10 10s. Apply B., 151, Hoxton-street, N., London.

Beasley's "Formulary," 7th edition; Beasley's "Druggist's Receipt Book;" Pereira's "Materia Medica," 3 vols., 4th edition; Wittstein's "Pharmaceutical Chemistry;" Brande's "Manual of Chemistry." B., 10, Prospect-hill, Douglas, Isle of Man.

Set of Tooth Instruments in morocco pouch, comprising 10 Forceps, Key, and minor instruments, excellent condition; Air Bed 37 in. by 88 in., with pillow and bellows (Maw's), cost 73s.; as good as new. Offers wanted. Macnaught, Chemist, Greenock.

Minette Bros. Gold Paint, 9 1s., 11 2s., and 2 3s. 6d. bottles; 10 6d. bottles Invisible Ink; 5 1s. Coat Bouquet Holders; 10 1s. 6d. Austin's Electro Gold Solution; Pharmaceutical Latin Grammar. Fawcett, Chemist, Armley, Leeds.

Three 4-gallon Window Globes, with cut conical stoppers, with stands (two mahogany); in good condition. Will take 30s., or exchange for Patent Medicines to that value, at 10s. 6d. per dozen. H. Corfe, 4, Jewry-street, Winchester.

Soda Water Machine, horizontal, Tyler & Sons; description, page 19, their Catalogue. In perfect order, used only one season. Price £35, cost £55.; disposing on account of having 3 machines, not requiring; also Syruping Machine Cost £5; sell £2. 14/11.

Three Two Gallon Show Globes, with stands, price 3s. 6d. each; one 10s. 6d. bottle, Ford's Balsam Horehound, price 6s. 6d. clean; three Nixon's Magnesia, 2s. 9d. and 1s. 4d. each; five 2s. 9d. Clayton's Pills, 1s. 4d. each; 56 lbs. Pulv. Lapis Calam, 5s. Cook, Chemist, Mirfield.

"The Chemist and Druggist" for 1864, 1865, 1866, 1868, 1869, 1870, 1871, 1872, in numbers either together or separately; also "The Lancet," vol. 1, 1872, No. 19 missing. What offers? Carriage not paid. J. Dove, Sherburn, South Milford.

Eight cwt. Cattle Spice at 12s.; 2 cwt. Cupri Sulph. Agricul.; McMaster and Hodgson's Fluid Annatto; McDougall's Disinfectant and Dipping; about 100 Drug Bottles and Jars; several Glass Cases, and sundry other Fittings. Apply at 87, Old Chester-road, Tranmere.

View Lens, 12 by 10; Lerebou's Portrait Lens and Camera; a half-plate Lens and Camera; a quarter-plate Lens and Camera. To be sold or exchanged for anything useful. Lincoln C. Ramsbottom, 104, Tiverton-street, Ardwick, Manchester.

Small Violin, 10s. 6d.; Attfield's "Chemistry," or Bentley's "Botany;" Folding Draft Board, Men, and Dice Cups, nearly new, lined with leather, 3s. 9d.; Prescriber's "Pocket Pharmacopœia," 2s. Draper, Ballard's Ash, Wootton Bassett.

Baxter's "British Botany," 3 vols., containing 240 beautifully executed coloured Plates of Officinal and other Plants, with copious dissections and 480 pages letterpress. Invaluable to Students. Published at £4 10s.; only 30s. Mr. Higginson, Newferry, Birkenhead.

Three Capped Ether Bottles; four Blue Syrup Bottles; abou. 100 Oj. and 1 lb. Stoppered Rounds, N. M., and W. M. labelled; one-half the carriage paid. £4 the lot, or offers. John Dutton, Chemist, West Cowes, Isle of Wight.

Four handsome Specie Jars, Gold Labels; two ten-gallon pear shaped Carboys and Stands, new; Lamp and Bracket, in good condition; two nests Mahogany Drawers; Five Grain 24-Pill Machine, new; twelve 8 lb. Shop Pots, Olive, Gold Labels; also Sundries and Drugs. Bowles, Chemist, Bedminster, Bristol.

Woodville's "Medical Botany," 3 vols., bound in calf, date of publication 1792; also Supplement, 1 vol., of Plants not included in the "Materia Medica;" the four vols. contain 274 Illustrations, beautifully Coloured, and in a perfect state of preservation. Liberal offers only entertained. H. Lloyd, Sandgate.

Handsome Show Frame; Tincture Press; Pill Machine; Barometer and Thermometer; Cases of Dental and Cupping Instruments; Air Cushion; Mellis; Oxy. Scillæ; Jalapine; various Sundries; Homœopathic Medicines; Thompson's "Conspectus;" Latin, Greek, and French Books. Carrington, Wincanton.

Mahogany Enclosure for Window, 7 ft. 9 in. by 2 ft. 4 in., and 6 ft. high, with 5 doors, glazed with figured glass, 4 to open, 1 fixed window in top, part for reflected light; two Gas Brackets, glazed arms, argand burners and reflectors, 12 in. diameter, for same. Offers wanted. 15/10.

Wileock's large sized Soda-Water Machine, fitted with every appliance, Rack Bottling Machine, with safety tube, and Syphon Filling Machine, also return pipe for conveying superfluous gas into gasometer. Offers wanted. Apply, with trade card, to Moore, Chemist, Cheltenham. Principals only treated with.

"Chemical News," vols. 8 to 22 bound, 23 to 26 in Nos.; "Proceedings Royal Society," vols. 12 and 13 bound, 14 to 20 in parts; "Pharmaceutical Journal," 1st series, vols. 1 to 9 in parts. Belonged to deceased analyst. Offers solicited. Apply, Harvey and Reynolds, 13, Briggate, Leeds.

Two Thirty Gallon Iron Drums, with tight covers and brass tops, perfect and complete in every respect, £2 5s., carriage paid; in one of the above is 30 gallons Methylated Spirit, each gallon containing 8 ozs. Gum Juniper and 12 ozs. White Shellac, *quite bright*—4s. gallon. Cash for both, 2s. 3d. G. Durrant, Hertford.

Patents. Nett value wholesale, about £12. One dozen, 4s. 6d.; four dozen, 2s. 9d.; nine dozen, 1s. 1½d., &c., including Wray's, Townsend's, Bullock's, Armstrong's, Evans's, Anderson's, Cheddon's, Simco's, Buchan's, Powell's, Stirling's, Marshall's, Priestley's, Jones' (Tremadoe), &c. Pills. Some soiled; all saleable. Offers wanted. Send stamp for list. Lowe, Chemist, Everton, Liverpool.

Brass Counter Scales, 18s.; 56 lb. Ox. Manganese; 5 cwt. fine White Silica—will send 14 lbs. for 2s. from Birmingham; 3 cwt. Ivory Black; Clater's "Cattle and Sheep," 3s. 4d.; Ainsworth's English-Latin Dictionary. 3s. 4d.; "Dogs and their Diseases," 10d. post free. Send stamps for list of Medical and Scientific Books. R. C. Mason, Bromsgrove,

1½ pint Tinct. Colchici, 3s.; 3 pints Tinct. Digitalis, 6s.; 2½ pints Tinct. Guaiaci Ammon., 6s.; ½ pint Tinct. Gallæ, 1s.; 3¾ lbs. Fol. Uvæ Ursi, 2s. 6d.; 7 lbs. Ivory Dust, 2s.; 1½ lbs. Antim. Tart. Pulv., 2s. 6d.; 15 ozs. Pulv. Antim. Co., 1s.; 10 Sandwell's Issue Plasters, 4s.; 4 Barker's Razor Paper (3s. boxes), 6s.; 20 W. Qt. Bottles, labelled (black on yellow), with caps, £1. Offers wanted. Worts, Chemist, Harwich.

One set of Clendon's Box Jointed Forceps, in leather pouch, 40s.; Five sets of 8 Forceps, in leather pouch, 22s. 6d.; Sets of Scaling and Stopping Instruments, cheap, all new; Acid Drop Machine, 20s.; Vulcanizers, complete, cheap; Barth's Nitrous Oxide Gas Apparatus, complete, quite new, 70s.; a very handsome Gas Stove, on a new principle, 10s.; 2 gallons of Copal Varnish, cheap; 6 gallons Blue Ink, cheap; a Sewing Machine for Leather Work, cost £12 new, price £5. Address, J. G., 14, Netherthorpe-street, Sheffield.

Mahogany Show Case as Maw's, fig. 52, in good condition, excepting plate glass in back being cracked, 28s.; one as Maw's, fig. 94, in good condition, 69s.; Dispensing Screen for Counter, letters "Dispensing Counter" beautifully enamelled on white ground, wings to same, shelves and two drawers behind for labels, 20s.; Mahogany Desk, lift up flap, to lock two drawers under one, fitted for labels, 25 by 22 in., and Prescription Desk in front, same length, brass rails and supports on top, 40s.; Leath and Ross's Mahogany Show Case, fitted with blanks in top part, 15s. 6d.; Pear Shape Show Carboy as Maw's, fig. 1, cut glass stopper, about 8 gallons, packed in hamper, 15s. 6d.; Sykes's Hydrometer, in mahogany case complete, with book of tables, 3s. 6d.; Gray's "Supplement to Pharmacopœia," Elliotson's "Practice of Medicine," and Thompson's "London Dispensatory," the lot 5s. 6d. Moore, Chemist, Cheltenham.

WANTED.

A Water Bed. State size and price. Griffith, Slough.

Pill Piping Machine, and Bushby's Pill Machine. R. C. Mason, Bromsgrove.

Attfield's "Chemistry," Bentley's "Botany," latest editions. Macnaught, Chemist, Greenock.

Attfield's "Chemistry;" Hassell on "Food Adulterations." 15/11.

Attfield's "Chemistry," 1869. F. H. Colwill, 33, High-street, Ilfracombe.

Cooley's "Cyclopædia of Receipts," latest edition. State price. Robertson, 10, Belgrave-street, Glasgow.

Pereira "Selecta è Præscriptis," last edition (Latin), London Pharmacopœia. State price within four days. 6/11.

One five or six-gallon Show Carboy, not higher than thirty inches. B. Waddington, Thornton, near Bradford.

Attfield's "Chemistry." State price to G. Hunt, Cheshunt-street, Cheshunt, Herts.

Mortar, with Bracket, complete, for Shop-front. State price, &c., to Alex Cleghorn, Chemist, Cupar, Fife, Scotland.

Shop-fittings of all descriptions, in good condition. State full particulars and lowest price. 33/11.

Dows and Co.'s small Soda Water Fountain; Watson's "Practice of Physic." 11/15.

A Squire's last edition, "Companion to the P.B.;" A. Richardson's "Mechanical Dentistry," last edition. 26/10.

Attfield's "Chemistry," fourth Edition; Bentley's "Manual of Botany;" "Selecta Præscriptis," Say price. J. Dove, Sherburn, South Milford.

Fenwick on "Diagnosis," last edition; Barclay's "Medical Diagnosis," last edition. Goodman, 6, Abingdon-bridge, Bath.

Mahogany Stock Case, 6 ft. high by 4 ft. broad, or thereabout. State lowest price and description. W. Parrington, Chemist, Batley.

A large Compo. Mortar, suitable for horse powders. State price, capacity, and condition. Vennal, Chemist, Cranleigh, Surrey.

A recent edition of Kelly's "Chemist and Druggist's Directory." State lowest cash price. G. S., 5, Upper Baker-street, Regent's Park, N.W.

"Latin Pharmacopœia;" "Pharm. Latin Grammar;" Redwood's "Pharmacy;" Pereira's "Materia Medica." Thresh, Dukinfield.

Counter Desk with Case at Front; also Glass Case for Tooth Brushes, &c. Particulars to Lockwood, Chemist, Sheffield.

A Soda Water Machine, by Hayward, Tyler, and Co., or Barnett or Sampson Barnett. Price and condition, &c. E. Seddon, Chemist, Fleetwood.

Lindley's "School Botany;" Mohr and Redwood's "Practical Pharmacy;" latest editions. State price and conditions; and Goddard's "Price Book." J. Dove, Chemist, Sherburn, South Milford.

Attfield's "Chemistry," Bentley's "Botany," Squire's "Companion," Beasley's "Pocket Formulary." Good condition, latest editions. State price. "Beta," 14, Kirkgate, Wakefield.

Nest of 60 Drawers, 1 doz. 40 oz. narrow mouth stoppered Bottles, 1 doz. wide mouth stoppered ditto, eighteen 20 oz. narrow mouth, 1 dozen 20 oz. wide mouth, 5 grain machine for 24 pills, three 2 gallon Window Carboys. 11/10.

*** We are always obliged to decline a considerable number of advertisements sent to us for the "Exchange Column," on the ground that they do not come within its scope. The purpose is to afford a means for obtaining or disposing of surplus stock, second-hand sundries, books, fixtures, etc., and in this object it has perfectly succeeded. We must also insist on having the real name and address of each advertiser ourselves, though it need not be published. Some gentleman at 17, Bloomsbury-square, invested 7d. this month in an advertisement which was probably a hoax. We returned this gentleman's facetious effort, for the reason that he gave only a fictitious name. In reply to some new subscribers who have written to us about the Exchange Column, we may say that while we decline to assume any responsibility whatever in respect to the goods offered for sale, we do promise to investigate any reasonable complaint which may come before us, and if we discover any real fraud on the part of anyone using our Exchange Column, we will expose it. Buyers and sellers are expected to adopt ordinary precautions in making their bargains, but, human depravity notwithstanding, we are not aware that up to this time any negotiator has been actually swindled through this medium.

Pharmacy.

PULV. RHEI CO. GRANULATA.

THROUGH the courtesy of a correspondent we have been favoured with a sample of a preparation boaring the bove title, and one, we think, entirely novel to tho majority f our readers. Tho object is to render tasteless that valuable ut unseous compound, so long celebrated as Dr. Gregory's tomachic powder, official in the Pharmacopœia as Pulv. Rhei Co. The gentleman to whom we are indebted for tho pro- ess informs us that he frequently has it ordered by medical uen in the neighbourhood, who highly approve of it. We ave ourselves tried tho preparation, and find in it a very uccessful attempt to disguise tho disagreeable taste of hubarb. The following is the method of preparation adopted y our correspondent:—

"Take any convenient quantity of Pulv. Rhei Co.; mix in mortar with sufficient syrup to form a moderately tough nass (the proper consistence will be easily determined after ne or two experiments), pass through a brass sieve, and llow it to remain ten or twelve hours to dry; then coat vith tolu dissolved in chloroform. I find the easiest method f coating is to nearly fill a two-ounce chip-box with the ried granules; pour in about ʒss. of tolu solution; gitate briskly, and pour out the contents of the box upon sheet of paper. Expose them to the air for an hour or wo, and they will be fit for use."

SYRUPUS CUBEBÆ.—A correspondent of the *Journal of Pharmacy* gives the following directions for preparing a syrup f cubebs which has been found an elegant as well as fficacious remedy in diseases of the throat and lungs:—

Fld. ext. cubebs	f ℥ij.
Carb. magnesia..	f ʒss.
Sugar, powdered	℥xij.
Orange-flower water	f ʒij.
Water	q. s.
Ess. oil almonds	gtt. j.

Rub up the fld. ext. with the carb. magnesia, and then add ʒij. of the sugar in small portions. When thoroughly mixed, dd gradually first the orange-flower water and then f ʒvij. vater, constantly triturating the mixture until the sugar is lissolved. Filter, and add q. s. water through the filter to neasure f ℥xj., in which dissolve the balance of the sugar vithout heat. Add the oil of almonds, put in a little alcohol, nd again filter, adding, if necessary, q. s. water through the ilter to measure one pt. The dose of this syrup is f ʒj-iv., nd it may be given in even larger doses if required.

IRON MANNATE.

In the *Annales de la Société de Medicine de Liége*, M. Gheysen lescribes a process for a preparation of iron which he finds aluable:—

Mix intimately 75 grammes of ferri sulph. pur., and 100 grammes of manna in drops. Add 30 grammes of ammonia (25°) nd triturate until a homogeneous mixture is obtained. Then dd by degrees 130 grammes of alcohol at 94°; the mixture will eparate into a soft mass and a superjacent solution of mmonia, which is rejected. The mass is then washed with 30 grammes of fresh alcohol. The rejected liquids weigh ogether 310 grammes. The ferrous product is then rapidly ried and powdered. The result is 125 grammes of tho nannate in powder of a beautiful green colour, and com- letely unaffected by dry air. The maximum dose M. heysen states at one gramme, and he believes the mannate o be the most perfect means of administering iron either a pill or powder.

IODIZED SYRUP OF EXTRACT OF MEAT.

(A French Formula.)

Extract of meat, 5 grammes; hot water, 5 grammes; dis- olve. Add 150 grammes of simple syrup, in which 0·80 grammes of iodide of potassium has been dissolved.

To prevent ink from turning mouldy, it has been recom- mended by a German chemist to add a drop or two of oustard oil. A similar addition to starch paste is said to revent its becoming sour.

CHARLES JAMES PEAL, of Wirksworth, Derbyshire, died March 2nd, 1873, aged 30 years.

AT the Derby Police Court, on the 12th inst., James Williams, was committed to prison for one month with hard labour, for being on the premises of Mr. Hollis, druggist, of Queen-street, for a fraudulent purpose, and intention to commit felony. Prisoner was seen in the shop, reaching over the counter towards the tills, subsequently two florins were missed, and these coins were found on his person.

A chemist at the Staffordshire assizes, on the 10th inst., before Mr. Justice Honyman, William Hollis, chemist, of Stoke-upon-Trent, together with Caroline Blakeman, were indicted for feloniously administering to Sarah Cherrington, on the 14th December last, at Stoke-upon-Trent, a certain noxious drug, with intent to procure abortion. Both prisoners were found guilty, but his Lordship deferred passing sentence pending a point raised by Mr. Motteram, who defended, and reserved for the Court of Criminal Appeal. Both prisoners were admitted to bail.

At the Manchester County Police Court on the 21st ult., William Goulden, an assistant to Mr. W. C. Matthews, surgeon, Longsight, was committed to take his trial at the sessions for embezzling moneys the property of his master.

At the Campden Petty Sessions, on the 5th ult., Mr. Thomas Spilsbury, Swinson, surgeon of Mickleton, was fined £10 for having a carriage of four wheels without having a proper licence for the same, and for keeping three carriages, he being licensed to keep one only.

LIME JUICE AND AUSTRALIAN MEAT.

A maritime question of much importance came before the Plymouth magistrates recently. Captain Ingestre, of the ship *Eastern Star*, of Liverpool, was summoned by four of the crew for not having served out lime juice to the crew during the voyage from Plymouth to Pensacola, as ordered by the Act of Parliament. It was admitted by the complainants that they were kindly treated, that the crew was in excess of the ship's regular complement, that the ship was well provisioned, that they had not asked the captain for lime juice, that lime juice was on board, and that no sickness had resulted. Captain Ingestre admitted the facts alleged, but pleaded that fresh Australian beef was served out to the crew, which was deemed sufficiently antiscorbutic in its properties. The complainants did not on the voyage express dislike to Australian meat, but they did so now. The magistrates, gentlemen of nautical experience, decided that they must enforce the Act by inflicting a fine of £5. Probably Australian fresh meat would answer the purposes of lime juice, and the men had evidently been well treated, but the Board of Trade had not said that antiscorbutics might be dispensed with when tinned beef was consumed, and until they did so the serving of lime juice must be enforced.

ON the 7th instant a most tragic suicide occurred on the establishment of Messrs. Maw. One of their town travellers, Mr. Jackson, after an interview with the head of one of the departments which was not quite satisfactory, obtained from Messrs. Evans, Lescher, and Evans an ounce of Scheele's acid, which he swallowed, and of course died almost instantly. An inquest was held on Monday last, at the White Horse, Little Britain, and a verdict of temporary insanity was given by the jury.

THE staff of the CHEMIST AND DRUGGIST dined together at the Cannon-street Hotel, on Wednesday evening, March 5, and entertained the proprietors as guests. The party with a few friends from other journals, numbered over thirty, and the evening was spent as such evenings usually are, in speeches, songs, and general merriment.

BANKRUPTS.

Watts, R., medical practitioner, 5, Bulstorde-street, Cavendish-square.

ARRANGEMENTS AND COMPOSITIONS.

Denny, H. W., chemist, 224, Rotherhithe-street, Rotherhithe.
Duncombe, W. P., chemist, etc., Wincanton.
Garstang, J., surgeon, Clitheroe.
Hall, J., chemist and druggist, Gainsborough.
Hawkes, J. S., chemist, etc., Cookley, near Kidderminster.
Heaton, E. G., chemist, 14, Exchange-street East, Liverpool, and at Walton.
Hughes, H., chemist, etc., Bridgnorth.
Jones, G., chemical analyst, 106, Leadenhall-street.
Joy, J. R., chemist and druggist, Waterloo Buildings, Leeds.
Keane, E., chemist, 31, Stall-street, Bath, and at Weston.
Knight, W., chemist and druggist, etc., Tewkesbury.
Moseley, Simeon, surgeon and mechanical dentist, Hull, Leeds, York, Scarborough, and 6, George-street, Hanover-square, London.
Price, Rees Penry Napoleon, wholesale and retail perfumer, 27, Old Bond-street; 8, Golden-square; 1, Cumming-street, Pentonville-road: also Boulogne-sur-Mer, France.
Rinder, H. S., medical practitioner and engineer, Salem, Lancashire (late of Oldham).
Sutcliffe, W., and Brooke, H. S., trading as W. Sutcliffe & Co., soap-boilers and manufacturing chemists, Bradford.
Warrener, R., surgeon, 11, Royal-terrace, Southend.
Wetherhean, E., assistant, 1, Florence-street, Islington (late chemist, Windsor).
Williams, E., wholesale druggist and drysalter, 18 and 20, Campbell-street, Duke-street, Liverpool.

PARTNERSHIPS DISSOLVED.

Barrett and Co., aërated water manufacturers, Leeds.
Blake and Swite, physicians and surgeons, Leamington.
Byrrns and Slade, chemists, etc., Whittlesley.
Chavasse and Bracey, surgeons, Birmingham.
Childs and Rowell, chemists, Southsea.
Fletcher, T. B., and Co., chemists, Nottingham.
Freelann and Murnoch, chemists, Barrhead.
Keate and Harries, surgeons, Shrewsbury.
Luke and Powdrell, surgeons, 75, Euston-road, London.
Mersey Manufacturing Company, chemical manufacturers, Penkoth, Lancashire; debts by J. Clare and W. Smith.
Monroe, Arthur, and Co., manufacturers of the spirit Robur, Camden-town.
Samuel and Peace, oil merchants, etc., Liverpool; debts by W. H. Samuel.
Tonhunter, J., and Co., indigo merchants, 31, Eastcheap, London.
Washington Chemical Company, Washington, Durham, by retirement of J. L. Bell.

MOROCCO DRUGS.

We give the most important parts of Dr. Arthur Leared's paper on the pharmaceutical products of Morocco below.

Leaves, Flowers, and Plants.

Labiatæ.

Zater.—*Thymus species?*—Flowers. The infusion is used to promote digestion. It was formerly exported to Holland in large quantities.* It is also much used by the Moors for flavouring tea.

Maroui or Marout.—*Ballota lanata*, L. Used for removing the scabs of small-pox, and as an application to hæmorrhoids, etc.

Rutaceæ.

Ruta.—*Ruta angustifolia*, Pers.—Rue. Carried about the person as a safeguard against infection, etc. Given for "nervousness," etc.

Compositæ.

Sech.—*Artemisia aragonensis*, Lam.?—Tops. Barbary worm-seed. Used in infusions for colds and also in fumigation for small-pox, etc. It is exported to Holland to make "bitters." Barbary worm-seed was considered by Guibourt to be the produce of *Artemisia glomerata*, Sieber.†

Shiba (trans. Old man's beard).—*Artemisia absinthum*, L.—Wormwood. Used in dyspepsia, and also for giving flavour to green tea.

* "Account of the Empire of Morocco," by James G. Jackson. London: 1814, p. 243.
† Pereira's Mat. Med., art. Artemisia.

Leguminosæ.

Sennaherram.—*Cassia elongata*, Lémaire Lissncourt.—Senna. Stated to be brought to Morocco by the pilgrims returning from Mecca. This is confirmed by the fact that the specimen is identical with Meeca senna imported *viâ* India into this country. Used as a purgative.

Artim.—*Spartim junceum.*—Spanish broom. This shrub forms a feature of the landscape. In many places it covers thousands of acres of sandy soil, to the exclusion of almost every other plant. Its white flowers in spring diffuse a strong and agreeable odour. It appears to be used by women as a remedy for barrenness, and although one would hardly regard it as poisonous, an instance was related to me in which death was caused by an overdose.

Myrtaceæ.

Rahan.—*Myrtus communis*, L.—Myrtle leaves. The infusion is used for diarrhœa. The leaves are also employed by the Jews in their ceremonies.

Oleaceæ.

Agzas.—*Phillyrea angustifolia*, L.—The infusion is thought to make the hair grow.

Dioscoreaceæ.

Eriffi.—*Tamus communis*, L.—Black bryony. Leaves. This plant, which is common to most parts of Europe, is employed, when pounded, by the Moors as a tropical application to wounds and bruises as the root of white bryony, commonly known as mandrake-root, occasionally is in this country. The tincture of *Tamus communis* forms one of the so-called homœopathic remedies.

Cannabinaceæ.

Kief.—*Cannabis sativa*, W.—Hemp. Whole plant. It is grown largely in the provinces of Haha and Shedma. The right of dealing in it and in tobacco is monopolized by the Emperor. These monopolies are farmed to Jews, who buy at a price fixed by law, and sell at an enormously advanced price. The plants are pulled up when the seed is ripe or nearly so; and the leaves, when dried and coarsely powdered, constitute kief. This is smoked in very small pipes. As may be supposed, a few inhalations exhaust the contents of the bowl. The smoke is taken into the lungs, and produces a powerfully narcotizing effect. But, unlike the preparations of the plant, which are swallowed, the effect soon passes away. Some smokers indulge their propensity frequently during the day; yet I have been assured by them that, after twenty or thirty years, they have not suffered from the practice.

Hashish, the preparation which is eaten, is too well known, from recent descriptions, to require much to be said about it. It is made by mixing the powdered leaves with butter, and also as a conserve with honey, to which opium is added.

Fruits and Seeds.

Umbelliferæ.

Carwia.—*Carum carui*, L.—Caraway seed. It is grown largely in the neighbourhood of Laraehe, and is shipped at Tangier in sugar casks and serons, but chiefly in bags to England and America. It is also produced round Morocco city. At Mogador, where it is rarely shipped, it is called Fez caraway seed. One cannot help being surprised at finding this cold climate plant a product of Morocco.

Cumin.—*Cuminum cyminum*, L.—Cumin seed. This is produced in quantity in the interior provinces of Hamer and Rahumna. The Jews mix it in their bread. It is exported to America, and also to the Canary Islands, where it is used in preserving tunny fish.

Nafta.—*Fœniculum dulce*, C. Bauh, jun.—Fennel seed. This is used as a substitute for flavouring Mahaya, a spirit extensively used, which is made chiefly from the water in which the combs are boiled in preparing beeswax. This water being impregnated with honey, is allowed to ferment, and is then distilled.

Sapotaceæ.

Aroan.—*Argania sideroxylon*, Rœm. et Sch.—Seeds. The oil expressed from the nuts is in general use for cooking. Fowls and other articles of diet are served up soaked in this

oil, which is preferred by some Europeans to olive oil. But such greasy food is very distasteful to most stomachs. It is customary to allow it to simmer over a fire with a piece of bread in it to remove its pungent taste, and this process is also believed to obviate a supposed tendency to cause leprosy.

Goats, sheep, and cows eat the fleshy part of the argan fruit freely, and the nuts are then laboriously broken with stones in order to extract the kernels. These are first partially roasted and then ground in a handmill. The oil is extracted from the meal by working it with the hands, and water is added to the mass as seems necessary. The argan, like many other trees in Morocco, has a local distribution. It is only found to the south of the River Tensift, and at no very great distance further south again disappears. In the Province of Haha there are large forests of it, and a tree exists a few miles south of Mogador, which is the largest known. It is of great age, and has a circumference of seventy-two yards. The trunk, which is very rugged and unequal, measures twenty-six feet close to the ground, and soon branches out. The branches extend more or less horizontally, and then droop so as to rest on the ground, while at the same time other branches are sent upwards. This gives the appearance of several trees in a group.

Cucurbitaceæ.

Elhedja.—*Cucumis colocynthis*, L.—Fruit. I obtained this pepo the size of a large orange in the city of Morocco. It differs from the ordinary Mogador kind in being, instead of a yellow colour, of a bright green with numerous yellow streaks, made up of more or less broken and irregular patches, which mark it into segments. It is probably only a variety. The Moors introduce colocynth pulp into the rectum as a purgative.

Zingiberaceæ.

Gooza Sehraweea.—*Amomum melagueta*, Roscoe.—Grains of Paradise. This drug appears to be an importation from Europe. It is mixed in bread, and is used as a stimulant.

Rutaceæ.

Harmel.—*Peganum Harmala*, L.—Seed. Used in fumigation as a disinfectant, and also against the effects of the "evil eye."

Leguminosæ.

Elhelba.—*Trigonella Fœnum-Græcum*. L.—Fenugreek. Employed by women to induce fatness, and also given with barley to horses. When first taken it purges.

Barks.

Juglandaceæ.

Sumac (trans. a stain).—*Juglans regia*, L.—Used by the Moorish women for staining the lips black.

Zingiberaceæ.

Kedilsham.—*Alpinia galanga*, Swartz.—Infusion of root used in gonorrhœa and urethral discharges.

Cruciferæ.

L'Fuely.—*Raphanus sativus*, L.—Radish. The root, when pounded, is applied to wounds. I saw radishes in Morocco city of enormous size, quite as large as ordinary mangold-wurzel roots.

Iridaceæ.

Hamber Elhor.—*Iris Germanica*, L.—Orris root.—It comes in large quantities from the city of Morocco to Mogador, from whence it is shipped to England and France. It is not yet two years since this trade sprang up, and at the present time many tons of the root are exported monthly.

Elfoa, Madder.—Long thin, almost tasteless root. Infusion used for diarrhœa, also as an application to sore eyes; taken by women as an emmenagogue, and to improve the complexion.

Umbelliferæ.

Feshook.—*Ferula species?*—Gum ammoniac. It is called Sog by the Barbary merchants. The plant is called kelth, and is abundant in Woled Bussebbah, two days' journey from Mogador on the road to the city of Morocco. It grows very quickly after the first autumnal rain. The stalk exhibited is one inch and a quarter in diameter, and was obtained at Mogador. Before parting with it the Moor broke off a portion, intending it, as he said, to fumigate his sore eyes. By virtue of its adhesiveness, the gum is also used by the Moors as a depilatory. Very little ammoniacum is sent to Europe. But a great deal is carried by pilgrims to Egypt and Arabia, where it is used for incense. It is chiefly shipped from Mazagan to Gibraltar for reshipment to Alexandria; a little is sent from Mogador, and none from the other ports. Pereira was of opinion that the Greeks and Romans were unacquainted with Persian ammoniacum (the produce of *Dorema ammoniacum*, Don.). The name ammoniacum is stated by Pliny (b. xii., Chap. 49) to be derived, like that of the oracle of Jupiter Ammon, near which the gum was produced, from ἄμμος (sand), in reference to the surrounding sandy country. This would indicate that it was brought from Lybia, the modern Tripoli. The Arabian physician, Serapion, writing at the commencement of the ninth century, mentions two kinds of ammoniacum, the best sort of which was produced from the root of a plant found in Crete; and an inferior kind of which he says, "Sed illud quod continet terram et lapides, nominat chironia et defertur a terrâ quæ dicitur Monacon et est succus plantæ, similis plantæ galbani in similitudine suâ et nascit ibi." This description agrees with the present Morocco product, and Monacon may be an early name for that country. It is observable that Serapion calls ammoniacum, 'raxach;' and that 'assach,' 'ushak,' and 'oshac,' are severally employed by Arabian and Persian writers to designate the gum. These approach 'fasogh' and 'feshook,' the modern Moorish names.

Aurantiaceæ.

Elma Delichien.—*Citrus Species?*—Orange flower water. This, the quality of which is good, was brought from Terodant, a town three days' journey south of Mogador, which is unvisited by Europeans on account of the fanatic nature of its inhabitants. Rosewater is brought from the same place, and both articles are largely used by the Moorish ladies.

Animal Substance.

Hamber.—*Ambergris*.—Strangely enough, this substance is brought to Mogador in considerable quantities by the Timbuctoo caravans from the interior of Africa. It probably finds its way there from the west coast. It is also obtained from sperm whales, which drift in dead on the Morocco coast. One of these whales has been thus procured at Casa Blanca in each of the three years just past. All contained ambergris, and the last an unusually large quantity. It was purchased by a Jew, who, it is said, sold it for £3,000. Much of it was exported to London. At Mogador it sells for about £20 per pound. Most of the well-off Moors have ambergris in their houses. They use it in green tea as a flavour, and one of the greatest compliments paid to a guest is to present him with a cup of this curious mixture.

At a recent meeting of the Victoria Institute, Mr. John Eliot Howard read a paper on "Scientific Facts and Christian Evidence," in which he showed the impossibility of scientific men observing what Professor Huxley and the disciples of Comte described as the first commandment of science," viz., "Give unqualified assent to no propositions but those the truth of which is so clear and distinct that they cannot be doubted." A discussion followed in which many members took part, and the following interesting statement was made by Mr. Howard as showing the swiftness with which the thrill of magnetic influence is communicated. On the 1st September, 1859, Messrs. Carrington and Hodgson were observing the sun, one at Oxford and the other in London. Their scrutiny was directed to certain large spots which at that time marked the sun's face. Suddenly a bright light was seen by each observer to break out on the sun's surface and travel slowly in appearance, but in reality at the rate of about 7,000 miles in a minute across a part of the solar disc. Now, it was found afterwards that the self-registering magnetic instruments at Kew had made at that very instant a strongly-marked jerk. It was learned at that moment a magnetic storm prevailed at the West Indies, in South America, and in Australia. The signalmen in the telegraph stations at Washington to Philadelphia received strong electric shocks. The pen of Bain's telegraph was followed by a flame of fire, and in Norway the telegraph machinery was set on fire. At night great auroras were seen in both hemispheres.

Trade Memoranda.

The guardians of the parish of Birmingham are open to receive tenders on the 19th inst. for the supply of drugs, drysaltery, etc.

Mr. Welchman, of Gold-street, Northampton, has retired from business. He was for nearly fifty years partner in the firm of Welchman and Son, Drapery, Northampton. He is succeeded by Mr. Evan Ashford of that town.

Mr. Taylor, chemist, of Leamington, has disposed of his business, and retires from the drug trade, to devote his attention more particularly to the spirit trade.

Mr. Lester (formerly assistant to Mr. Maxwell, Northampton) has commenced business as a chemist, at Nuneaton, Warwickshire.

Mr. Joseph A. Clarke has succeeded his father at 132 and 134, London-street, Glasgow.

We note that Messrs. Tidman and Son have opened their new establishment at 21, Wilson-street, Finsbury.

Messrs. Barnett and Foster wish us to correct an error made by us in referring to Codd's aërated water bottles last month. We described them as the patentees, which they are not, but they are the sole agents for the patentee.

We have received the catalogue of Mr. John F. Henry, of New York, the well-known patent medicine and druggist-sundry house of America. This catalogue is one of the most stylish specimens of trade literature we know of. We commend it to the notice of those houses here and in the colonies who can do business in American specialities. Messrs. Newbery and Son are Mr. Henry's correspondents in London. English firms will find an important advertisement of Mr. Henry's on page 39.

Messrs. Morson and Son have entered into the Chlorodyne competition, but they do not put theirs forward as a patent medicine.

The report of the Newcastle Chemical Works Company (Limited), presented on the 10th of March, recommended a dividend at the rate of 12½ per cent. per annum, and a bonus of £1 per share, which will absorb £75,000, and leave, after an appropriation of £5,000 to reserve, a balance of £1,845, to be carried forward. The directors add that "the prospects of the present year are favourable, although the great rise in the price of coal, and of materials generally, cannot fail to affect the profits of the business."

The use of glycerine, as a solvent for the coal tar-colours, promises some important practical results. Dye baths, in which glycerine has been alone used, and in which some of the aniline colours have been dissolved, have given the best results with cotton, wool, and silk. At present, however, the cost stands in the way of its general adaptation.

Joining Rubber.—Rubber is easily joined and made as strong as an original fabric, by softening before a fire and laying the edges carefully together, without dust, dirt, or moisture between. The edges so joined must be freshly cut in the beginning. Tubing can be united by joining the edges around a glass cylinder, which has previously been rolled with paper. After the glass is withdrawn the paper is easily removed. Sift flour or ashes through the tube to prevent the sides from adhering from accidental contact.

TRADE REPORT.

FOR the moment, the wreck of the Gladstone government is the talk of the hour. The event is not likely to have much influence on commercial matters, and the Premier's persistence in making his Irish University Bill a test question of the loyalty of his party, has alienated from him the sympathies of many whose Liberalism is undoubtedly staunch. From neither side of the House can we hope to get a government really conversant with commercial matters, and properly representing this commercial nation; but it must be confessed that, as far as one can judge, trade interests are hardly likely to benefit by a change to the Tories.

It is to be hoped that when all the sentimental grievances of Church and State have been rectified—and at the rate we have been advancing, that happy day can hardly be far off—British commerce may be allowed to have an innings. The one thing we want above all others is, a simple effective law to enable honest traders to check fraudulent debtors.

As matters now stand, men in business have come to regard the present condition almost as a necessity, while the debtors themselves have ceased to see any crime in their proceedings; and thus the laxity of law has, to a great extent, led to a decay of the moral sentiment.

The export orders for British manufactured chemicals are expected from now onwards; but, pending their arrival, we have to report a general lull. The heavy class of manufactures are just now particularly dull, and only in one or two instances has there been any animation in the market. One of these is Oxalic Acid. A slight rise in the price of this item is due to the fact that some dealers who had made forward sales at a low price, in consequence of information that a new make would soon be on the market, have been disappointed in their calculations, and have been compelled to hedge their speculations in the best way they could. Within three months it is expected that the supply will be more abundant, but until then the price will most likely be steady. There has been more trade in Chlorate of Potash, which is stronger. Iodine still stands at 1s., and good trade is being done at that figure. Last year's experience teaches us that at any moment this product may go up with a bound; and with the knowledge that makers can command the market when they choose, and that they, like other specimens of human nature, can have no objection to an influx of gold, it does seem that this article must be worth buying. But it is no certainty, and intending speculators should carefully bear in mind that it can be sold at 9d. Our latest advices indicate that there is a shade of a disposition to realize on the part of holders of Citric and Tartaric, but no great amelioration in the price of the former can be looked for for some months at least.

Some mysterious talk is afloat of some new chemical manures, wonderfully rich in phosphates, which are soon to come out, but as yet they are only on paper. Bleaching Powder has made a decided drop since our last. It is now 14s. 3d., but for forward sales a rather higher price is asked.

In the drug trade there is absolutely nothing to report in the way of variations of price. Every well-known staple continues at our last quotations, except in as far as the import of higher or lower qualities has influenced the list. At the sales on the 6th instant, dullness was the characteristic from end to end, neither buyers nor sellers seeming to care for business. Private transactions, as far as we can ascertain, have ruled in buyer's favour. Camphor has been sold at ower than market rates.

The quotations for Olive Oils are low, but we have reason to know that holders are very confident, and we judge that it cannot be long before the turn comes. Turpentine has got through its little spell of liveliness, and prices have receded.

The speculative article of this month has been Pepper. Large quantities were sold at the end of last week, and an advance of fully 1d. per pound was established.

In drysalteries it is only necessary to remark that Saltpetre and Shellac have both declined.

Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mincing-lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

CHEMICALS.	1873.				1872.			
ACIDS—	s.	d.		s. d.	s.	d.		s. d.
Acetic .....per lb.	0	4½	to	0 0	0	4½	to	0 0
Citric ..... ,,	4	11	..	0 0	3	10	..	4 0
Hydrochlor. ....per cwt	4	0	..	7 0	4	0	..	7 0
Nitric .....per lb.	0	5	..	0 5½	0	5	..	0 5½
Oxalic ..... ,,	0	9¾	..	0 10	1	2	..	0 0
Sulphuric ..... ,,	0	0¾	..	0 1	0	0¾	..	0 1
Tartaric crystal .. ,,	1	7½	..	1 8	1	8½	..	0 0
powdered ,,	1	7½	..	1 8	1	8½	..	0 0
ANTIMONY ore.....per ton	320	0	..	560 0	270	0	..	290 0
crude ..per cwt	40	0	..	42 0	36	0	..	0 0
regulus.. ,,	0	0	..	0 0	56	0	..	56 10
star .... ,,	61	0	..	64 0	56	10	..	58 0
ARSENIC, lump..... ,,	18	6	..	19 0	18	0	..	18 6
powder.... ,,	10	5	..	10 10	7	0	..	7 3
BRIMSTONE, rough ..per ton	125	0	..	150 0	125	0	..	150 0
roll ....per cwt	10	0	..	0 0	10	0	..	10 10
flour.... ,,	11	6	..	12 6	11	6	..	12 6
IODINE, dry .....per oz.	1	0	..	0 0	2	3	..	2 4
IVORY BLACK, dry..por cwt.	8	6	..	0 0	8	6	..	0 0
MAGNESIA, calcined..per lb.	1	6	..	0 0	1	2	..	1 3
MERCURY..... per bottle	270	0	..	0 0	210	0	..	220 0
MINIUM, red .....per cwt.	21	3	..	21 6	21	3	..	21 6
orange .... ,,	32	6	..	0 0	31	6	..	32 0
PRECIPITATE, red ....per lb.	4	3	..	0 0	3	4½	..	0 0
white .. ,,	4	2	..	0 0	3	3½	..	0 0
PRUSSIAN BLUE ..... ,,	0	0	..	0 0	0	0	..	0 0
SALTS—								
Alum .....per ton	170	0	..	0 0	160	0	..	165 0
powder .... ,,	190	0	..	0 0	180	0	..	0 0
Ammonia:								
Carbonate .....per lb.	0	7½	..	0 7¾	0	7	..	0 7½
Hydrochlorate, crude, white..... per ton	640	0	..	0 0	560	0	..	620 0
British (*see* Sal Ammoniac)								
Sulphate .....per ton	395	0	..	400 0	450	0	..	460 0
Argol, Cape .....per cwt	80	0	..	90 0	80	0	..	92 0
France .... ,,	67	0	..	70 0	72	0	..	80 0
Oporto, red ,,	32	0	..	32 6	24	0	..	28 6
Sicily '.... ,,	65	0	..	70 0	50	0	..	65 0
Ashes (*see* Potash and Soda)								
Bleaching powd..per cwt.	14	3	..	14 6	16	6	..	0 0
Borax, crude .... ,,	50	0	..	70 0	60	0	..	65 0
British refnd. ,,	102	6	..	105 0	100	0	..	0 0
Calomel .....per lb.	3	10	..	0 0	3	2½	..	0 0
Copper:								
Sulphate .....per cwt.	31	0	..	31 6	29	6	..	33 0
Copperas, green ..per ton	60	0	..	62 6	60	0	..	65 0
CorrosiveSublimate..p.lb.	3	3	..	0 0	2	7½	..	0 0
Cr. Tartar, French, p. cwt.	107	6	..	0 0	115	0	..	0 0
Venetian grey ,,	0	0	..	0 0	100	0	..	0 0
brown ,,	97	6	..	102 6	0	0	..	0 0
Epsom Salts ....per cwt.	5	9	..	6 3	5	6	..	6 0
Glauber Salts .... ,,	7	6	..	0 0	4	6	..	6 0
Lime:								
Acetate, white, per cwt.	14	0	..	22 6	13	6	..	23 0
Magnesia: Carbonate ,,	42	6	..	45 0	42	6	..	0 0
Potash:								
Bichromate ....per lb.	0	8½	..	0 0	0	8	..	0 0
Carbonate:								
Potashes, Canada, 1st sort .....per cwt.	37	6	..	0 0	45	6	..	46 0
Pearlashes, Canada, 1st sort .....per cwt.	49	0	..	0 0	49	0	..	49 6
Chlorate .....per lb.	1	8½	..	1 9	1	8	..	0 0
Prussiate ..... ,,	1	5½	..	0 0	1	8½	..	1 9
red .... ,,	3	1	..	0 0	3	2	..	3 3
Tartrate (*see* Argol and Cream of Tartar)								
Potassium:								
Chloride .....per cwt.	9	0	..	9 6	10	10	..	11 0
Iodide..... per lb.	16	0	..	0 0	35	0	..	0 0
Quinine:								
Sulphate, British, in bottles ..... per oz.	7	8	..	0 0	7	9	..	0 0
Sulphate, French ,,	7	8	..	0 0	7	6	..	0 0
Sal Acetos .....per lb.	1	1½	..	0 0	1	4½	..	0 0
Sal Ammoniac, Brit. cwt.	48	0	..	49 0	47	0	..	48 0
Saltpetre:								
Bengal, 6 per cent or under .....per cwt.	29	3	..	30 0	30	3	..	30 9
Bengal, over 6 per cent. per cwt.	27	0	..	29 0	29	6	..	30 0
Madras..... ,,	0	0	..	0 0	0	0	..	0 0
Bomb. & Kurrachee p.ct.	0	0	..	0 0	0	0	..	0 0
European..... ,,	0	0	..	0 0	0	0	..	0 0
British, refined ,,	32	6	..	33 6	34	0	..	34 6
Soda: Bicarbonate, p.cwt.	19	9	..	20 0	15	6	..	16 0
Carbonate:								
Soda Ash....per deg.	0	3¼	..	0 3½	0	3	..	0 3½
Soda Crystals per ton	150	0	..	0 0	130	0	..	0 0
Hyposulphite..per cwt	16	0	..	16 6	16	0	..	16 6
Nitrate .....per cwt.	16	3	..	16 6	16	0	..	0 0

	1873.				1872.			
	s.	d.		s. d.	s.	d.		s. d.
SUGAR OF LEAD, White, cwt.	45	0	to	0 0	43	0	to	44 0
Brown ..... ,,	30	0	..	0 0	31	0	..	0 0
SULPHUR (*see* Brimstone								
VERDIORIS ..... per lb.	1	1½	..	1 2	1	1	..	1 3
VERMILION, English.. ,,	3	8	..	3 10	3	4	..	3 6
China.... ,,	3	9	..	4 0	3	6	..	0 0
DRUGS.								
ALOES, Hepatic....per cwt.	80	0	..	230 0	70	0	..	220 0
Socotriue .. ,,	160	0	..	320 0	120	0	..	300 0
Cape, good.. ,,	30	0	..	32 0	35	0	..	38 0
Inferior ,,	20	0	..	29 0	25	0	..	34 0
Barbadoes ,,	70	0	..	190 0	75	0	..	210 0
AMBERGRIS, grey..... oz.	26	0	..	30 0	26	0	..	29 0
BALSAM —								
Canada ..... per lb.	1	0	..	1 10	1	5	..	1 6
Capivi ..... ,,	2	6	..	2 10	2	0	..	2 1
Peru ..... ,,	9	2	..	0 0	9	3	..	9 4
Tolu ..... ,,	1	11	..	2 0	2	0	..	2 1
BARKS—								
Canella alba ....per cwt.	15	0	..	25 0	15	0	..	25 0
Cascarilla..... ,,	23	0	..	37 0	22	0	..	37 0
Peru, crown & grey per lb.	1	0	..	2 8	1	6	..	3 1
Calisaya, flat ,,	2	10	..	4 3	3	2	..	3 4
quill	2	10	..	4 10	3	2	..	3 4
Carthagena ,,	0	10	..	1 9	0	10	..	1 9
Pitayo .... ,,	0	4	..	1 9	0	10	..	1 9
Red ..... ,,	1	10	..	6 0	1	10	..	6 0
Bucha Leaves ..... ,,	0	2	..	1 0	0	4	..	1 0
CAMPHOR, China.. per cwt.	85	0	..	0 0	82	6	..	0 0
Japan ,,	85	0	..	0 0	85	0	..	0 0
Refin Eug. per lb.	1	2½	..	0 0	1	4	..	0 0
CANTHARIDES ..... ,,	5	9	..	6 6	7	6	..	7 9
CHAMOMILE FLOWERS p. cwt	40	0	..	80 0	45	0	..	70 0
CASTOREUM ..... per lb.	6	0	..	20 0	3	0	..	30 0
DRAGON'S BLOOD, lp. p. cwt.	102	6	..	240 0	110	0	..	200 0
FRUITS AND SEEDS (*see also* Seeds *and* Spices)								
Anise, China Star pr cwt.	117	6	..	125 0	130	0	..	0 0
Spanish, &c. ,,	17	0	..	36 0	35	0	..	50 0
Beans, Tonquin .. per lb.	2	0	..	3 0	1	0	..	1 8
Cardamoms, Malabar good ,,	4	2	..	6 0	8	3	..	8 9
inferior ,,	2	7	..	3 9	7	0	..	8 0
Madras ,,	2	0	..	4 6	2	6	..	7 9
Ceylon ,,	4	9	..	5 0	3	0	..	0 0
Cassia Fistula.. per cwt.	12	0	..	22 0	12	0	..	30 0
Castor Seeds .. ,,	5	0	..	10 0	10	0	..	12 0
Cocculus Indicus ,,	12	0	..	14 0	18	0	..	19 0
Colocynth, apple.. per lb.	0	3	..	0 6	0	3	..	0 6
Croton Seeds .. per cwt.	55	0	..	0 0	54	0	..	60 0
Cubebs ..... ,,	23	0	..	0 0	25	0	..	27 0
Cumnin..... ,,	20	0	..	36 0	55	0	..	67 0
Dividivi ..... ,,	11	0	..	16 0	12	0	..	15 0
Fenugreek..... ,,	0	9	..	0 10	0	11	..	1 1
Guiuea Grains .. ,,	24	0	..	25 0	55	0	..	57 0
Juniper Berries ,,	16	6	..	17 6	11	6	..	12 6
Myrobalans .... ,,	9	0	..	14 0	12	0	..	17 6
Nux Vomica.... ,,	10	0	..	15 0	10	6	..	13 6
Tamarinds, East India ,,	5	0	..	20 0	2	0	..	14 0
West India, new ,,	20	0	..	31 0	12	0	..	30 0
Vanilla, large .... per lb.	60	0	..	71 0	41	0	..	55 0
inferior ,,	30	0	..	58 0	23	0	..	39 0
Wormseed per cwt.	0	0	..	0 0	0	0	..	0 0
GINGER, Preserved, in bond (duty 1d. per lb.) per lb.	0	6	..	0 9	0	6½	..	0 11
GUMS (*see separate list*)								
HONEY, Chili .... per cwt.	30	0	..	36 0	50	0	..	57 0
Cuba .... ,,	0	0	..	0 0	35	0	..	50 0
Jamaica.. ,,	30	0	..	45 0	40	0	..	56 0
Australian ,,	20	0	..	40 6	0	0	..	0 0
IPECACUANHA .... per lb.	3	0	..	3 6	4	10	..	5 0
ISINGLASS, Brazil.. ,,	2	6	..	4 6	2	6	..	4 7
Tongue sort ,,	3	4	..	5 2	3	3	..	5 3
East India ,,	1	0	..	4 5	1	5	..	3 10
West India ,,	4	0	..	4 5	3	10	..	4 0
Russ. long staple	8	0	..	12 6	6	0	..	9 6
,, leaf ,,	3	6	..	7 6	3	6	..	6 6
,, Simovia	2	6	..	4 6	2	0	..	3 6
JALAP, good ..... ,,	1	4	..	2 0	1	6	..	2 8
infer. & stems ,,	0	10	..	1 3	0	6	..	1 5
LEMON JUICE ... per degree	0	2¾	..	0 0	0	1	..	0 1½
LIQUORICE, Spanish per cwt.	0	0	..	0 0	35	0	..	37 0
Italian ,,	0	0	..	0 0	40	0	..	60 0
Liquorice Root ,,	16	0	..	20 0	0	0	..	0 0
MANNA, flaky .... per lb.	3	0	..	3 3	3	3	..	3 6
small..... ,,	1	2	..	1 8	2	0	..	0 0
MUSK, Pod ..... per oz.	19	0	..	40 6	20	0	..	43 0
Grain ..... ,,	60	0	..	61 0	0	0	..	0 0
OILS (*see also separate List*)								
Almond, expressed per lb.	1	0	..	0 0	1	3	..	0 0
Castor, 1st pale .... ,,	0	5½	..	0 0	0	5½	..	0 5½
second .... ,,	0	5¼	..	0 0	0	5	..	0 4½
infer. & dark ,,	0	4¾	..	0 0	0	4¾	..	0 4¾
Bombay (in casks)	0	4¾	..	0 0	0	4½	..	0 4
Cod Liver .....per gall.	3	6	..	5 6	5	0	..	6 0
Croton.....per oz.	0	3	..	0 4	0	3½	..	0 4½
Essential Oils:								
Almond .....per lb.	30	0	..	0 0	35	0	..	0 0
Anise-seed ..... ,,	9	0	..	0 0	11	0	..	11 3
Bay .....per cwt.	0	0	..	0 0	65	0	..	70 0
Bergamot .....por lb.	9	0	..	16 0	8	0	..	15 0
Cajeput, (in boud) por oz.	0	0	..	0 0	0	1½	..	0 0
Caraway .....per lb.	5	6	..	6 3	5	6	..	6 3
Cassia ..... ,,	6	10	..	0 0	5	6	..	5 9
Cinnamon .....per oz.	0	9	..	2 0	0	10	..	3 0
Cinnamon-leaf.. ,,	0	3	..	0 3¾	0	2	..	0 4½

	1873.				1872.			
	s.	d.		s. d.	s.	d.		s. d.
Essential Oils, *continued*:—								
Citronello .....per oz.	0	2½	to	0 0	0	2	to	0 0
Clove.....per lb.	4	0	..	0 0	3	0	..	0 0
Juniper ..... ,,	1	9	..	2 0	1	3	..	2 4
Lavender..... ,,	2	0	..	5 6	3	6	..	6 0
Lemon..... ,,	12	0	..	15 0	5	0	..	15 0
Lemongrass ....per oz.	0	3½	..	0 6	0	4	..	0 0
Neroli ..... ,,	0	5	..	0 6	0	5	..	0 6
Nutmeg ..... ,,	0	7½	..	0 8½	0	4½	..	0 8½
Orange.....per lb.	7	0	..	8 0	7	0	..	8 0
Otto of Roses....per oz.	18	0	..	25 0	12	0	..	21 0
Patchouli ..... ,,	4	0	..	0 0	4	0	..	0 0
Peppermint:								
American ....per lb.	12	0	..	14 6	13	6	..	14 6
English ..... ,,	26	0	..	28 0	30	0	..	33 0
Rosemary ..... ,,	1	11	..	0 0	1	9	..	2 0
Sassafras..... ,,	3	3	..	3 8	3	0	..	3 6
Spearmint ..... ,,	6	0	..	20 0	4	0	..	16 0
Thyme..... ,,	1	10	..	1 11	1	10	..	2 0
Mace, expressed .. per oz.	0	1½	..	0 3	0	1½	..	0 3
Opium, Turkey ..... per lb.	24	0	..	27 0	20	0	..	21 0
inferior ..... ,,	12	0	..	20 0	12	0	..	19 0
Quassia (bitter wood) per ton	85	0	..	90 0	80	0	..	82 6
Rhubarb, China, good and fine .....per lb.	2	9	..	6 0	2	3	..	6 0
Good, mid. to ord. ,,	0	8	..	2 6	0	5	..	2 0
Dutch trimmed ,,	8	0	..	10 0	0	0	..	0 0
Russian ..... ,,	0	0	..	0 0	0	0	..	0 0
ROOTS—Calumba..per cwt.	18	0	..	30 0	24	0	..	30 0
China ..... ,,	20	0	..	27 0	24	0	..	26 0
Galangal ..... ,,	18	0	..	22 0	17	0	..	18 0
Gentian ..... ,,	18	0	..	19 0	19	6	..	0 0
Hellebore ..... ,,	30	0	..	32 0	30	0	..	35 0
Orris..... ,,	23	0	..	36 0	65	0	..	75 0
Pellitory ..... ,,	38	0	..	39 0	60	0	..	63 0
Pink.....per lb.	0	10	..	1 0	0	9	..	1 3
Rhatany..... ,,	0	5	..	0 11	0	4	..	0 11
Senega..... ,,	4	3	..	5 0	5	3	..	5 4
Snake ..... ,,	1	1	..	1 2	1	2	..	1 3
Saffron, Spanish .. ,,	22	0	..	26 0	30	0	..	42 6
Salep .....per cwt.	170	0	..	180 0	170	0	..	200 0
Sarsaparilla, Lima per lb.	0	5¾	..	0 7	0	8	..	0 11
Para..... ,,	1	3	..	0 0	1	0	..	1 3
Honduras ..... ,,	1	0	..	1 8	1	2	..	1 8
Jamaica ..... ,,	2	0	..	2 7	1	7	..	2 11
Sassafras .....per cwt.	0	0	..	0 0	0	0	..	0 0
Soammony, Virgin ..per lb.	26	0	..	31 0	26	0	..	32 0
second & ordinary ,,	14	0	..	25 0	10	0	..	25 0
Senna, Bombay .... ,,	0	2	..	0 5	0	3	..	0 5
Tinnivelly ..... ,,	0	2	..	0 10	0	2¾	..	1 4
Alexandria..... ,,	0	2½	..	1 0	0	8¼	..	1 7
Spermaceti, refined.. ,,	1	6	..	0 0	1	0	..	0 0
American ..... ,,	1	2	..	1 3	1	2	..	1 3
Squills ..... ,,	0	1¼	..	0 2	0	1¼	..	0 2
GUMS.								
Ammoniaci drop ..per cwt.	95	0	..	160 0	90	0	..	165 0
lump .. ,,	80	0	..	130 0	55	0	..	80 0
Animi, fine washed ,,	250	0	..	320 0	300	0	..	340 0
bold scraped ,,	210	0	..	240 0	230	0	..	290 0
sorts ..... ,,	150	0	..	230 0	160	0	..	260 0
dark ..... ,,	90	0	..	120 0	100	0	..	150 0
Arabic, E. I., fine								
pale picked .. ,,	65	0	..	77 6	73	0	..	76 6
srts, gd. to fin ,,	00	0	.	69 0	60	0	..	72 0
garblings.. ,,	23	0	..	50 0	23	0	..	42 0
Turkey, pick. gd to fin. ,,	160	0	..	230 0	160	0	..	200 0
second & inf. ,,	85	0	..	150 0	85	0	..	150 0
in sorts .. ,,	0	0	..	0 0	65	0	..	80 0
Gedda.... ,,	25	0	..	42 0	30	0	..	42 0
Barbary, white .. ,,	50	0	..	57 0	0	0	..	0 0
brown .. ,,	34	0	..	40 0	40	0	..	46 0
Australian ..... ,,	23	0	..	45 0	30	0	..	46 0
Assafœtida, com. to gd ,,	45	0	..	110 0	35	0	..	120 0
Benjamin, 1st qual. ,,	100	0	..	400 0	180	0	..	500 0
2nd ,, ,,	135	0	..	210 0	150	0	..	210 0
3rd ,, ,,	60	0	..	80 0	65	0	..	85 0
Copal, Angola red ,,	130	0	..	140 0	135	0	..	140 0
Benguela .. ,,	110	0	..	112 6	105	0	..	112 6
Sierra Leone..per lb.	0	3½	..	0 10	0	3½	..	0 11
Manilla ....per cwt.	14	0	..	30 0	20	0	..	37 0
Dammar, palo .... ,,	50	0	..	55 0	60	0	..	62 6
Euphorbium ..... ,,	12	0	..	15 0	15	0	..	17 0
Galbanum ..... ,,	0	0	..	0 0	200	0	..	260 0
Gamboge, pckd. pipe ,,	260	0	..	300 0	300	0	..	340 0
Guaiacum .....per lb.	0	8	..	2 6	0	9	..	2 10
Kino.....per cwt.	50	0	..	85 0	60	0	..	90 0
Kowrie, rough.... ,,	18	0	..	24 0	0	0	..	0 0
scraped .. ,,	25	0	..	28 0	0	0	..	0 0
Mastic, picked.....per lb.	6	0	..	7 0	6	0	..	7 3
Myrrh, gd. & fine por cwt.	120	0	..	200 0	125	0	..	200 0
sorts.....	78	0	..	115 0	85	0	..	120 0
Olibanum, p. sorts	66	0	..	72 0	76	0	..	80 0
ambor & ylw.	60	0	..	65 0	08	0	..	75 0
garblings .... ,,	20	0	..	36 0	20	0	..	44 0
Senegal .....per cwt.	70	0	..	80 0	70	0	..	80 0
Sandarac ..... ,,	50	0	..	98 0	53	0	..	100 0
Shellac, Orange.... ,,	182	6	..	195 0	160	0	..	182 0
Liver..... ,,	175	0	..	190 0	160	0	..	105 0
Thus..... ,,	24	0	..	26 0	20	0	..	22 0
Tragacanth, leaf.. ,,	200	0	..	440 0	200	0	..	450 0
in sorts ,,	70	0	..	180 0	110	0	..	180 0
OILS.								
Seal pale.....per tun	£42	0	..	0 0	£38	0	..	0 0
yellow to tinged ,,	37	0	..	40 0	33	0	..	37 0
brown..... ,,	33	0	..	0 0	35	0	..	0 0
Sperm ..... ,,	94	0	..	0 0	98	0	..	100 0

	1873.				1872.			
	£	s.		£ s.	£	s.		£ s.
Oils, *continued*:—								
Cod..... per tun	38	10	to	0 0	33	10	to	34 0
Whale, South Sea, pale ,,	39	0	..	40 0	30	10	..	0 0
yellow ,,	37	0	..	38 0	34	0	..	36 0
brown ,,	34	0	..	39 0	32	0	..	0 0
East Indla, Fish ,,	28	0	..	0 0	28	0	..	0 0
Olive, Galipoli ....per ton	44	0	..	0 0	51	0	..	0 0
Trieste ..... ,,	43	0	..	0 0	50	0	..	50 10
Levant ..... ,,	41	0	..	0 0	49	0	..	0 0
Mogador..... ,,	41	0	..	41 10	47	0	..	48 0
Spanish ..... ,,	41	0	..	0 0	50	0	..	0 0
Sicily ..... ,,	41	0	..	0 0	50	0	..	0 0
Cocoanut, Cochin .... ,,	39	0	..	40 0	42	0	..	0 0
Ceylon.. ,,	35	0	..	35 10	37	10	..	38 0
Sydney ,,	29	0	..	35 0	32	0	..	38 0
Ground Nut and Ginoelly:								
Bombay	0	0	..	0 0	0	0	..	0 0
Madras.....	35	10	..	0 0	40	0	..	0 0
Palm, fiuc ..... ,,	38	0	..	38 10	38	0	..	0 0
Linseed ..... ,,	33	5	..	0 0	33	10	..	33 15
Rapeseed, English, pale ..	37	0	..	0 0	43	10	..	0 0
brown.....	35	0	..	37 10	41	10	..	0 0
Foreign pale....	10	0	..	0 0	44	0	..	44 10
brown.....	39	0	..	0 0	0	0	..	0 0
Cottonseed ..... ,,	30	0	..	0 0	32	10	..	0 0
Lard..... ,,	44	10	..	45 10	50	0	..	53 0
Tallow ..... ,,	32	0	..	0 0	36	0	..	0 0
Turpentine, American, cks.	48	0	..	0 0	56	0	..	57 0
Freuch, ,,	46	6	..	47 0	55	0	..	0 0
Petroleum, Crude ..... ,,	0	0	..	0 0	0	0	..	0 0
	s.	d.		s. d.	s.	d.		s. d.
refined, per gall.	1	5	..	1 5¾	1	5½	..	1 5½
Spirit ,,	1	6	..	0 0	0	10½	..	0 11
SEEDS.								
Canary .....per qr.	46	0	..	50 0	52	0	..	58 0
Caraway, English per cwt.	40	0	..	44 0	0	0	..	0 0
German, &c.....	30	0	..	36 0	32	6	..	35 0
Coriander ..... ,,	16	0	..	20 0	0	0	..	0 0
Hemp.....per qr.	40	0	..	44 0	40	0	..	44 0
Linseed, English per qr...	60	0	..	67 0	0	0	..	0 0
Black Sea & Azof	60	6	..	61 0	61	6	..	62 0
Calcutta ,,	65	0	..	0 0	63	3	..	0 0
Bombay ,,	0	0	..	0 0	58	0	..	0 0
St. Petrsbrg. ,,	60	0	..	61 0	60	0	..	0 0
Mustard, brown..per bshl.	13	0	..	16 0	0	0	..	0 0
white.. ,,	8	0	..	9 0	8	0	..	9 6
Poppy, East Indla per qr.	71	0	..	0 0	65	0	..	66 0
SPICES.								
Cassia Lignea ....per cwt.	76	0	..	85 0	104	0	..	118 0
Vera ..... ,,	25	0	..	60 0	42	0	..	92 0
Buds ..... ,,	117	6	..	122 6	130	0	..	140 0
Cinnamon, Ceylon,								
1st quality ....per lb.	2	3	..	3 8	2	4	..	3 8
2nd do. ..... ,,	1	9	..	3 4	1	9	..	3 5
3rd do. ..... ,,	1	5	..	3 0	1	7	..	2 11
Tellicherry ..... ,,	2	8	..	3 1	2	7	..	3 2
Cloves, Penang.... ,,	1	4	..	1 5	1	3	..	1 4
Amboyna..... ,,	0	6½	..	0 11	0	5	..	0 10½
Zanzibar ..... ,,	0	8	..	0 8½	0	4¾	..	0 0
Ginger, Jam., fine per cwt.	100	0	..	200 0	90	0	..	180 0
Ord. to good .. ,,	52	0	..	90 0	37	0	..	87 0
African..... ,,	45	0	..	46 0	32	0	..	0 0
Bengal ..... ,,	44	0	..	45 0	35	0	..	0 0
Malabar ..... ,,	43	0	..	44 0	38	0	..	0 0
Cochin ..... ,,	52	0	..	125 0	50	0	..	110 0
Pepper, Blk, Malabar, per lb.	0	7½	..	0 0	0	7	..	0 0
Singapore..... ,,	0	7	..	0 0	0	0½	..	0 7
White, Tellicherry ,,	0	0	..	0 0	0	0	..	0 0
Cayenne ..... ,,	1	0	..	2 0	1	4	..	1 0
Mace, 1st quality ..per lb.	3	6	..	4 1	4	2	..	4 7
2nd and inferior.. ,,	3	0	..	3 5	3	8	..	4 1
Nutmegs, 78 to 00 to lb.	3	3	..	4 8	3	5½	..	4 2
90 to 80 ,,	2	11	..	3 2	3	4	..	3 5
132 to 95 ,,	2	4	..	2 10	3	0	..	3 4
Pimenta ..... ,,	0	3	..	0 0		3	..	0 3¼
VARIOUS PRODUCTS.								
COCHINEAL—								
Honduras, black ..per lb.	2	4	..	3 4	2	6	..	3 6
,, silver .. ,,	2	4	..	2 7	2	6	..	2 9
,, pasty .. ,,	2	1	..	2 3	2	5	..	0 0
Mexican, black .... ,,	2	4	..	2 8	2	7	..	2 9
,, silver.... ,,	2	8	..	2 4	2	6	..	0 0
Teneriffe, black.... ,,	2	5	..	4 2	2	6	..	4 6
,, silver..... ,,	2	4	..	2 6	2	6	..	2 8
PUMICE STONE ..per ton	120	0	..	150 0	0	0	..	0 0
SOAP, Castile ....per cwt.	33	0	..	34 0	35	0	..	0 0
SPONGE, Turk. fin pkd pr lb.	12	0	..	16 0	12	0	..	16 0
Fair to good .. ,,	4	0	..	11 0	4	0	..	11 0
Ordinary..... ,,	1	0	..	3 6	1	0	..	3 6
Bahama..... ,,	0	6	..	2 6	0	6	..	2 6
TERRA JAPONICA—								
Gambier .. per cwt.	23	0	..	0 0	22	6	..	23 0
Free cubos ,,	27	6	..	29 0	24	0	..	25 6
Cutch ..... ,,	23	0	..	24 0	25	0	..	26 6
WOOD, Dye, Bar ..per ton	£4	5	..	£4/10/0	£3	15	..	£4 5
Brazil ..... ,,	0	0	..	0 0	0	0	..	0 0
Cam ..... ,,	15	0	..	25 0	20	0	..	22 0
Fustic, Cuba..... ,,	8	5	..	9 10	9	0	..	10 5
Jamaica ..... ,,	6	0	..	6 10	7	5	..	8 15
Logwood, Campeachy ,,	8	2	6 ..	9 0	9	10	..	10 0
Honduras ..... ,,	6	5	..	6 10	0	0	..	0 0
St. Domingo .... ,,	5	0	..	5 15	0	0	..	0 0
Jamaica ..... ,,	5	2	6 ..	7 6	5	5	..	5 7/6
Lima, first pile.... ,,	9	0	..	11 5	8	10	..	10 0
Red Sanders .... ,,	6	0	..	0 0	7	10	..	0 0